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# MINERAL INDUSTRY SURVEYS

U. S. DEPARTMENT OF THE INTERIOR  
BUREAU OF MINES  
WASHINGTON, D. C. 20240



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PETROLEUM PRODUCTS SURVEY  
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## MOTOR GASOLINES, SUMMER 1973

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# MOTOR GASOLINES, SUMMER 1973

by

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## INTRODUCTION

The properties of motor fuels sold through service stations in the United States are reported in accordance with a cooperative agreement between the American Petroleum Institute and the Bureau of Mines in the United States Department of the Interior. By agreement with the American Petroleum Institute, identification of the data is confidential.

This report presents analytical data for 4,717 samples that represent the products of 49 companies. Company representatives collected the samples during June, July, and August 1973. As in previous surveys, the gasolines covered by this survey include those from both large and small suppliers. Laboratories of various refiners, motor manufacturers, and chemical companies obtained and submitted the data to the Bureau of Mines for analysis and compilation. Motor-gasoline survey reports published during the past 10 years are listed on page 5.

Analytical tests required for a complete gasoline analysis were not available for many of the samples. Tests in this category, the number of test results available and used in this report, and the percent of the total samples represented for that test include the following:

Test	Number of samples used	Percent of total samples
Gravity	3,854	82
Sulfur content	1,277	27
Phosphorus content	558	12
Lead content	3,705	79
Distillation	2,768	59
Vapor pressure	2,758	59

## SUMMARY

The characteristics of motor gasolines for summer 1973 are summarized in table 1, and those for summer 1972 are shown in table 2 for comparison. Figures 1 and 2 show trends for several years of some of the more important characteristics. The following data list trends of national average octane numbers for the last four gasoline surveys:



	Regular-price			Premium-price		
	Octane number			Octane number		
	Research	Motor	(R+M)/2	Research	Motor	(R+M)/2
Winter 1971-72	94.0	86.5	90.3	99.8	92.3	96.1
Summer 1972	94.1	86.4	90.3	99.8	92.2	96.0
Winter 1972-73	93.9	86.4	90.2	99.6	92.2	95.9
Summer 1973	93.5	86.1	89.8	99.3	91.9	95.6

Table 3 shows regional average octane numbers of regular- and premium-price fuels including the sum of the research and motor octane numbers divided by two. Table 4 shows average data from each district and gives the national average for all properties.

Data for third grade (sub-regular), intermediate grade, and super-premium gasolines are included in table 5.

Table 6 lists all of the low-lead samples (0.08-0.50 g/gal) within each district and table 7 gives the unleaded gasolines (0.00-0.07 g/gal).

## DISCUSSION OF DATA

Terms used in the surveys have the following meanings:

District: The designation of a marketing area for collecting samples and data. The present arrangement of 17 districts, developed by the CFR Committee<sup>1/</sup>, was selected with reference to the specifications on motor gasolines, refinery locations, population centers, and arteries of commerce such as navigable rivers. The states or parts of states in each district are indicated in the headings of table 3 and are shown in figure 5.

Brand: The gasoline sold within a given price group and by a given trade name.

Item: The index number assigned to a given brand in a given district. The data for each item represent the average of those submitted for that brand in that district. The number of samples represented follows the item number.

Sample: The supply of gasoline obtained at the service station and analyzed in the Laboratory.

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<sup>1/</sup> Coordinating Fuel and Equipment Research Committee (formerly the Coordinating Fuel Research Committee) of the Coordinating Research Council, Inc. From 1935 to 1948 the motor-gasoline surveys were conducted under a cooperative agreement between the Coordinating Research Council and the Bureau of Mines.



Table 3 presents the following data by districts: gravity in degrees API, sulfur, gum, phosphorus, lead, research- and motor-method octane numbers, the calculated property of the sum of research and motor octane numbers divided by two, Reid vapor pressure, and distillation characteristics of the motor fuels collected. The tests were made according to American Society for Testing and Materials standards. <sup>2/</sup> This current report presents, for the first time, calculated temperature values for a vapor-liquid ratio of 20. Computer calculations of V/L 20 data were made, using vapor pressure and distillation data for each sample, in the equation described by D439<sup>3/</sup> Appendix A 2, "Procedure for Estimating Temperature-V/L Values."

Corrosion test results are not included in the district tables as all the reported numbers are "1," according to the corrosion scale given in table 1 of ASTM D130. <sup>2/</sup>

Gum test data are reported to the nearest whole number. The distillation temperatures, corrected to barometric pressure at 760 mm Hg, are those for percent evaporated.

Average values follow the tabulated data in table 3 for the respective grades of fuel shown in each district. The averages of the various properties were computed without reference to the total number of samples represented by each item.

The district averages from table 3 are shown in table 4 with the number of brands and number of samples for regular- and premium-price gasoline in each district. The national averages for each of the properties of fuels sold in each of the 17 districts are given at the end of the table.

Table 5 shows data for third grade (sub-regular), intermediate grade, and super-premium motor gasolines. Tables 6 and 7 present special listings of the samples according to lead content. Table 6 lists the low-lead samples (0.08-0.50 g/gal) and table 7 lists the unleaded samples (0.00-0.07 g/gal).

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2/ American Society for Testing and Materials, 1972 Annual Book of ASTM Standards, Part 17, Petroleum Products — Fuels; Solvents; Burner Fuel Oils; Lubricating Oils; Cutting Oils; Lubricating Greases; Hydraulic Fluids, Philadelphia, Pa., 1,236 pp.

3/ American Society for Testing and Materials, Standard Specifications for Gasoline (D439):1972 Annual Book of ASTM Standards, Part 17 (see footnote 2), pp. 169-180.



Figures 1 and 2 illustrate trends in the national averages of certain properties of regular- and premium-price gasolines, respectively, since the summer of 1946. Averages for the winter surveys are plotted on the lines that represent the years and for the summer surveys between the lines. Octane-number points are connected for successive surveys, but those for Reid vapor pressure and distillation temperatures are plotted separately for summer and winter surveys. Charts that show plots of these properties from 1935 (except winter 1941-42 and summer 1942) are presented in the survey report on motor gasolines for winter 1964-65 and preceding reports. <sup>4/</sup>

Figures 3 and 4 illustrate distribution (frequency) of octane values by numbers of samples for all grades of fuel represented. Each bar represents one-half octane number.

Tables 8 and 9 show the percentages of all samples for each district at each whole octane number level, cumulated according to increasing octane number.

The districts, locations, and number of samples of gasoline represented are listed in table 10 and shown on the map in figure 5. The locations are named for the principal cities in the respective vicinities, and include suburbs and adjacent communities. The area of the circle at each location is proportional to the number of samples obtained. The summary at the end of table 10 lists by district, the number of locations, samples, and the percentages of the latter based on the total reported.

This report does not discuss the significance of the data presented. Reference may be made to the ASTM specification<sup>3/</sup> for motor gasoline and its appendixes, "Significance of ASTM Specifications for Motor Gasoline," at a technical library.

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<sup>4/</sup> Blade, O. C., Motor Gasolines, Winter 1964-65. Bureau of Mines Petroleum Products Survey No. 40, 38 pp. (in cooperation with the American Petroleum Institute).



## LIST OF MOTOR-GASOLINE SURVEY REPORTS, 1963-73

Author	Season and Year	PPS Report No.	Published	No. of Pages
In cooperation with the American Petroleum Institute				
Blade, O. C.	Summer 1964	37	Dec. 1964	40
Do.	Winter 1964-65	40	July 1965	38
Do.	Summer 1965	43	Jan. 1966	39
Do.	Winter 1965-66	45	June 1966	38
Do.	Summer 1966	48	Dec. 1966	38
Do.	Winter 1966-67	50	June 1967	38
Do.	Summer 1967	53	Dec. 1967	38
Do.	Winter 1967-68	55	June 1968	39
Do.	Summer 1968	58	Jan. 1969	38
Do.	Winter 1968-69	60	July 1969	38
Blade, O. C. and Ella Mae Shelton	Summer 1969	63	Jan. 1970	38
Shelton, Ella Mae and C.M. McKinney	Winter 1969-70	66	Aug. 1970	47
Do.	Summer 1970	68	Jan. 1971	49
Do.	Winter 1970-71	70	June 1971	54
Shelton, Ella Mae	Summer 1971	73	Jan. 1972	59
Do.	Winter 1971-72	75	June 1972	53
Do.	Summer 1972	78	Jan. 1973	53
Do.	Winter 1972-73	80	June 1973	60
Do.	Summer 1973	This report		

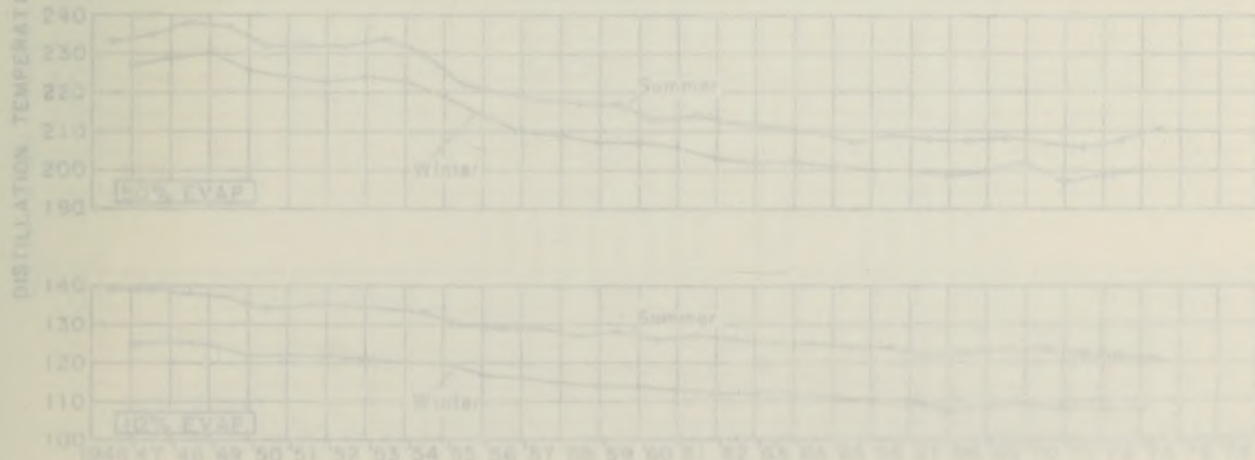


FIGURE 1.—Trends of Certain Characteristics of Regular Grade Gasoline





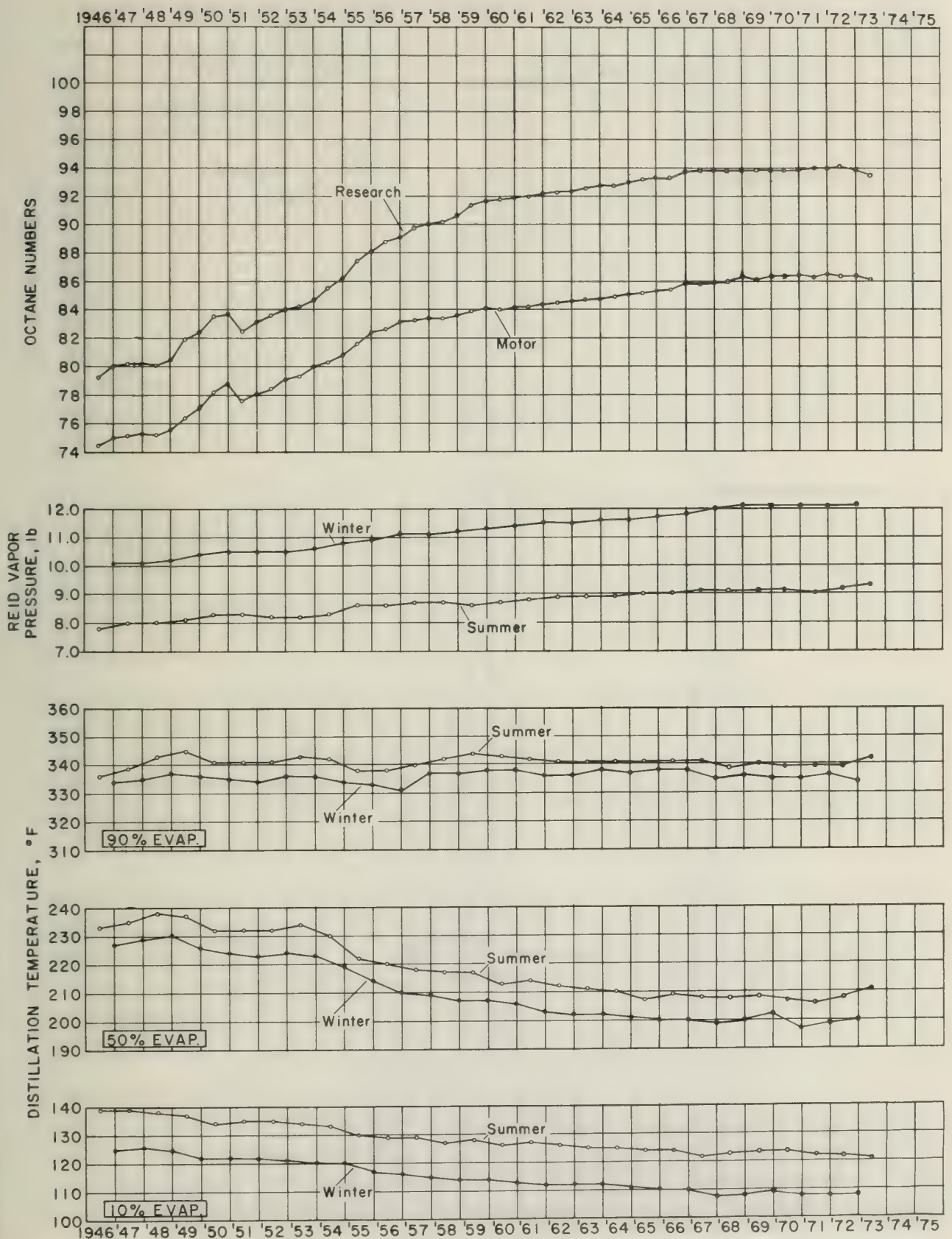


FIGURE 1.—Trends of Certain Characteristics of Regular-Price Gasolines.





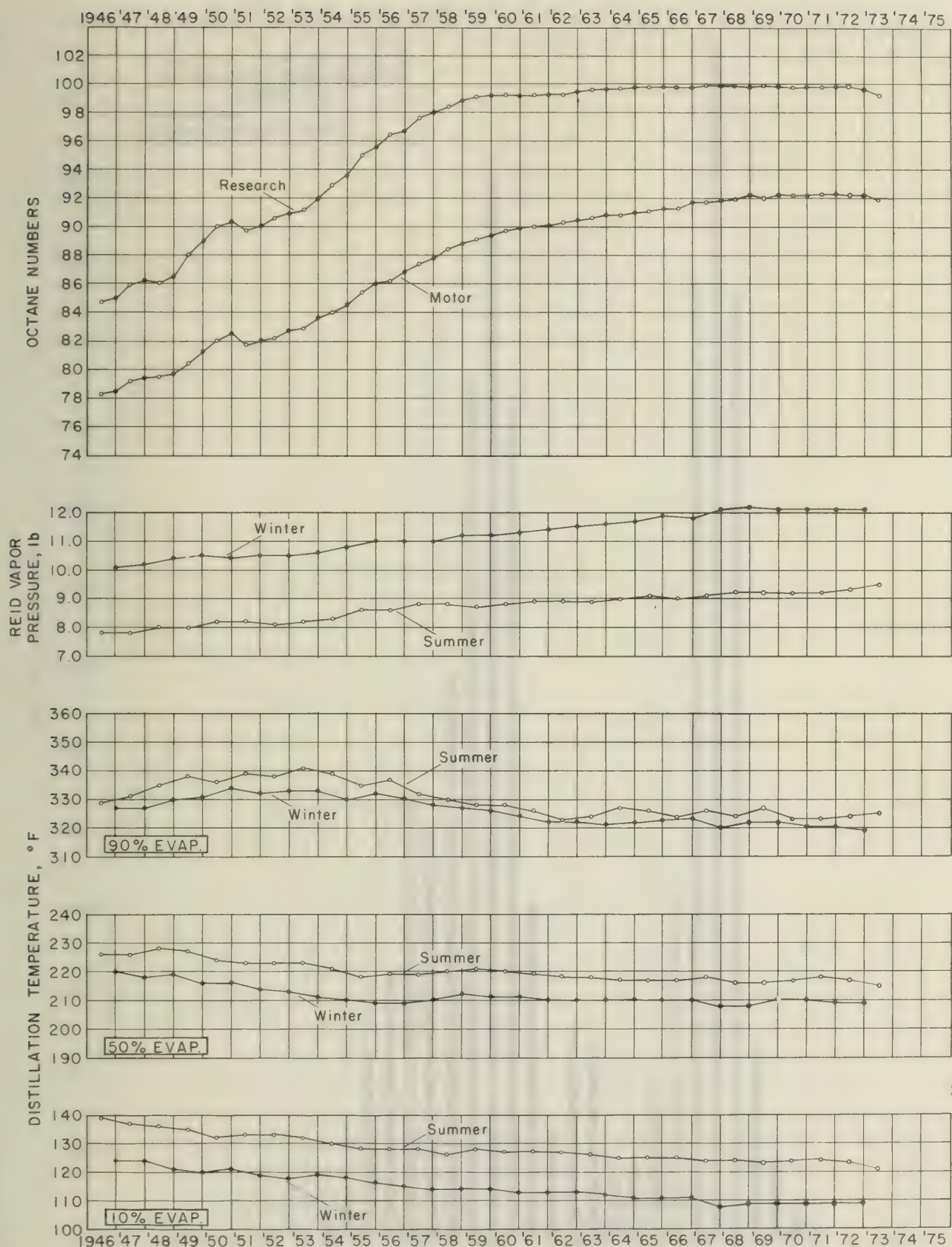


FIGURE 2.—Trends of Certain Characteristics of Premium-Price Gasolines.





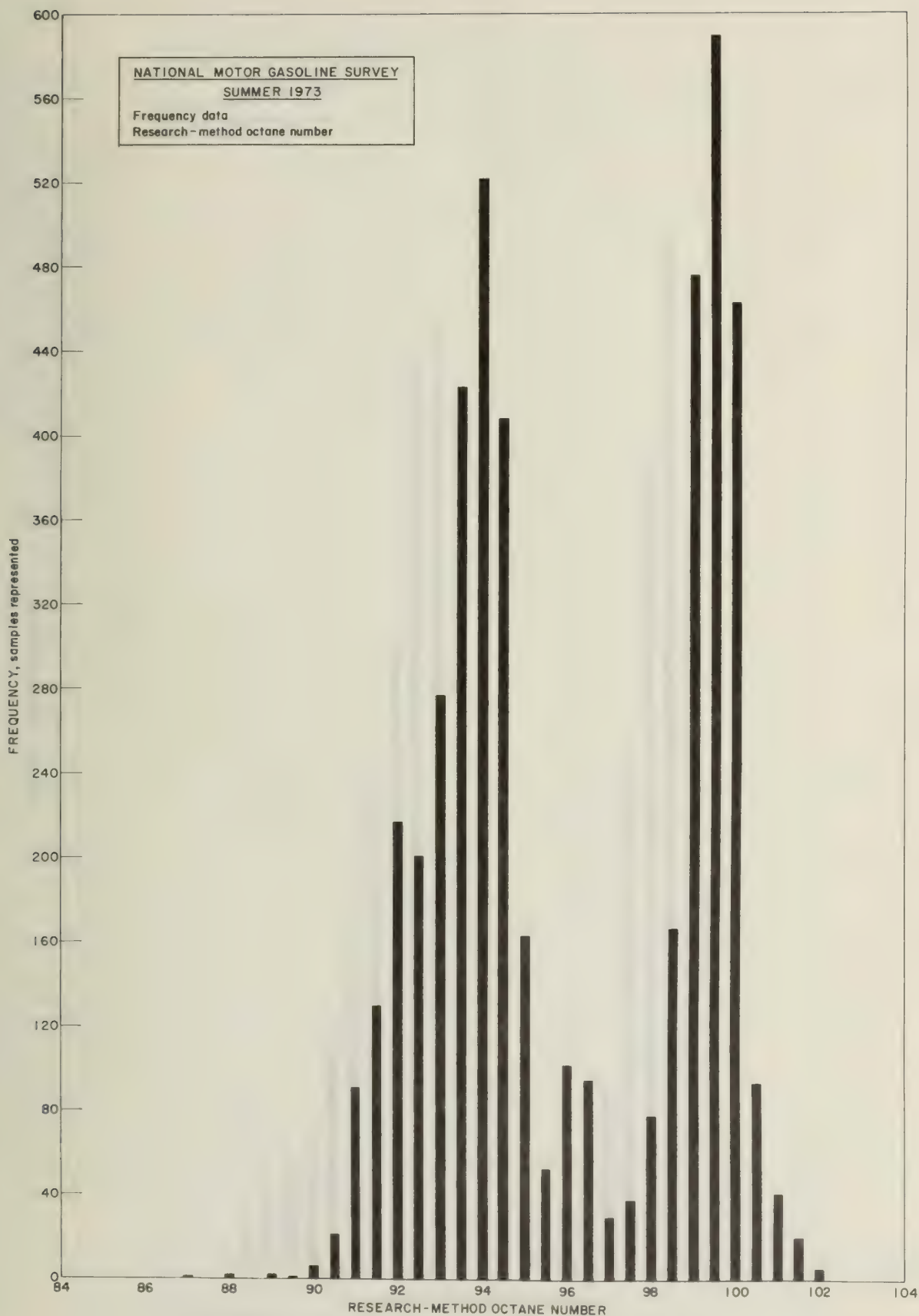


FIGURE 3.-Distribution of Research-Method Octane Numbers.





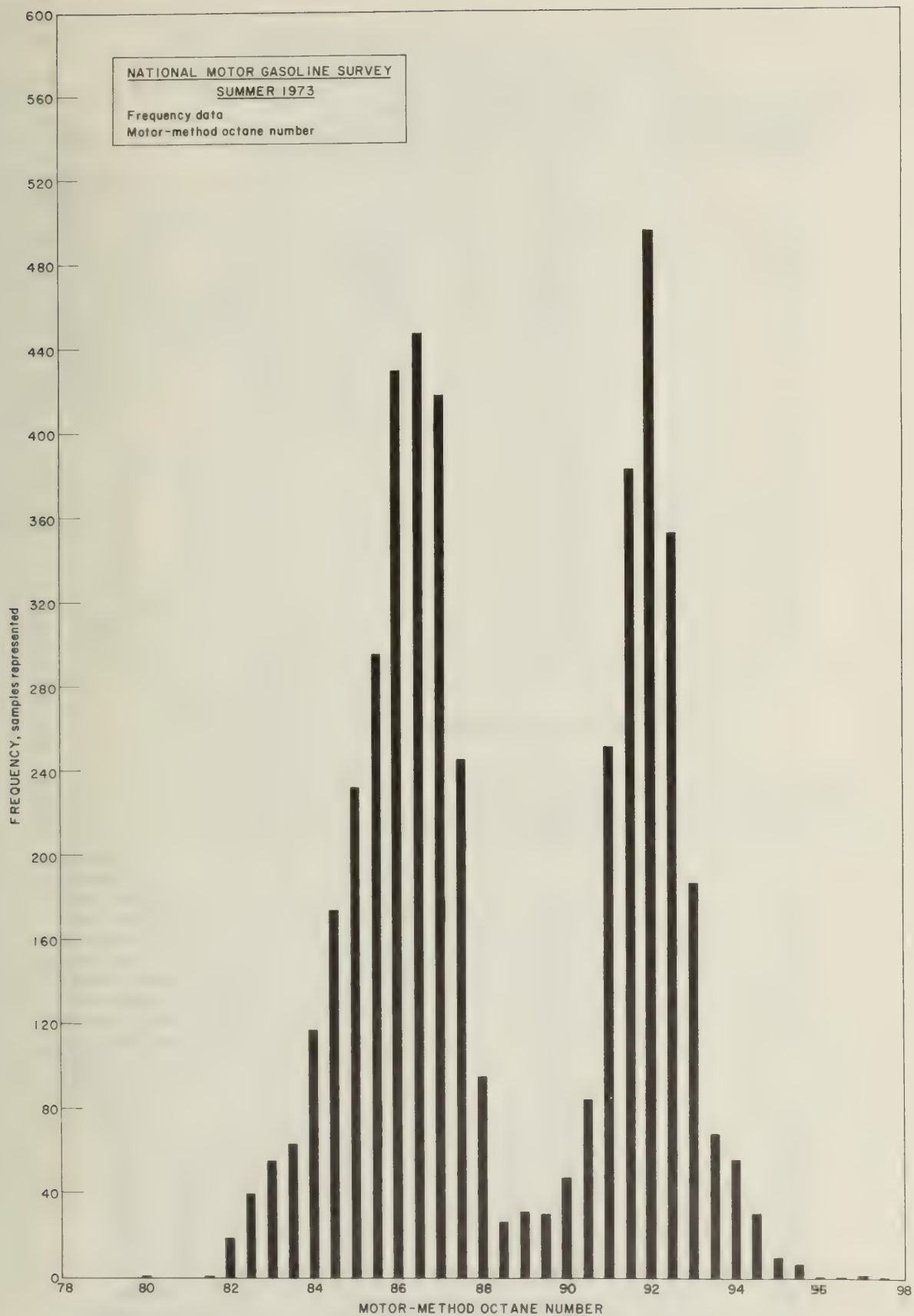


FIGURE 4.-Distribution of Motor-Method Octane Numbers.





TABLE 1. - Summary of values, motor gasoline survey, summer 1973

Test	ASTM method	Regular-price gasoline	Premium-price gasoline
		Average	Average
Gravity, ° API	D287	60.3	61.7
Corrosion, No.	D130	1	1
Sulfur content, wt %	D1266	0.040	0.026
Gum, mg/100 ml	D381	1	1
Phosphorus, g/gal	D3231	0.004	0.003
Lead, g/gal	D526	2.01	2.42
Octane number, Research	D2699	93.5	99.3
Octane number, Motor	D2700	86.1	91.9
Research + motor octane Nos./2		89.8	95.6
Reid vapor pressure, lb	D323	9.3	9.5
Vapor-liquid ratio of 20, °F	D439	136	137
Distillation	D86		
Temp, °F			
IBP		91	90
5% evaporated		108	107
10% Do.		121	121
20% Do.		142	146
30% Do.		163	171
50% Do.		211	215
70% Do.		265	255
90% Do.		342	325
95% Do.		378	361
End point		417	405
Residue, vol %		1.0	1.0
Loss, vol %		1.6	1.7

TABLE 2. - Summary of values, motor gasoline survey, summer 1972

Test	ASTM method	Regular-price gasoline	Premium-price gasoline
		Average	Average
Gravity, ° API	D287	60.5	60.7
Corrosion, No.	D130	1	1
Sulfur content, wt %	D1266	0.042	0.026
Gum, mg/100 ml	D381	1	1
Phosphorus, g/gal	D3231	-	-
Lead, g/gal	D526	2.04	2.52
Octane number, Research	D2699	94.1	99.8
Octane number, Motor	D2700	86.4	92.2
Research + motor octane Nos./2		90.3	96.0
Reid vapor pressure, lb	D323	9.2	9.3
Vapor-liquid ratio of 20, °F	D439	-	-
Distillation	D86		
Temp, °F			
IBP		92	91
5% evaporated		108	108
10% Do.		122	123
20% Do.		142	147
30% Do.		163	172
50% Do.		208	217
70% Do.		262	257
90% Do.		339	324
95% Do.		372	357
End point		411	401
Residue, vol %		0.9	0.9
Loss, vol %		1.5	1.6





TABLE 3. - MOTOR GASOLINE SURVEY, SUMMER 1973  
AVERAGE DATA FOR DIFFERENT BRANDS--CONTINUED

DIST. 1 NORTHEAST--CONTINUED

MAINE, MASS., N.H., VT., AND NORTHERN N.Y.  
PREMIUM-PRICE GASOLINE

ITEM	SAM- PLES	GR., ASTM D287 API	SULF., ASTM D1266 WT %	GUM, ASTM D381 MG	PHOS., ASTM D3231 G/GAL	LEAD, ASTM D526 G/GAL	OCTANE NUMBER		RVP, ASTM D323 LB	20V/L ASTM D439 F	DISTILLATION, ASTM D86												RES LOSS % X
							RES, ASTM D2699	HOT, ASTM D2700			TEMPERATURE, F (CORRECTED TO 760 MM HG)												
											PERCENT EVAPORATED												
											IBP	5	10	20	30	50	70	90	95	EP	EP		
13	7	61.1	-	-	-	2.88	99.7	92.2	96.0	133	92	105	121	148	176	224	265	322	352	392	1.1	2.2	
14	3	59.9	-	-	-	2.68	100.0	91.8	95.9	135	88	98	115	140	166	217	262	325	360	416	1.5	1.5	
15	7	59.4	-	-	-	2.59	99.9	92.2	96.1	134	91	104	117	142	170	228	268	329	359	400	1.1	1.9	
16	3	59.3	-	-	-	2.96	100.0	91.2	95.6	134	88	97	114	138	164	213	259	314	362	400	1.6	1.4	
17	4	57.9	-	-	-	2.69	99.9	92.2	96.1	135	89	100	112	134	154	221	267	342	368	400	.9	1.9	
18	1	65.3	-	-	-	-	99.6	92.5	96.1	126	92	103	115	137	161	205	240	309	339	381	.8	2.9	
19	7	62.2	-	-	-	2.66	99.8	92.8	96.3	124	86	97	107	125	147	203	255	323	356	392	1.2	2.0	
20	7	60.2	-	-	-	2.15	99.4	91.2	95.3	131	88	102	116	139	165	219	260	324	366	408	1.2	2.2	
21	4	61.4	0.030	0	-	2.37	99.4	91.6	95.5	134	90	101	121	146	172	216	255	329	353	409	1.0	2.5	
22	3	60.7	-	-	-	2.58	99.5	91.7	95.6	138	88	98	113	145	175	218	267	343	402	426	1.4	1.0	
23	6	60.7	-	-	-	2.40	100.3	91.5	95.9	132	90	101	114	138	163	218	266	330	357	395	1.1	2.2	
24	3	50.7	-	-	-	.05	100.8	90.6	95.7	134	88	97	111	138	181	246	276	339	391	412	1.8	1.2	
25	3	60.8	-	-	-	2.65	99.3	91.3	95.3	135	86	102	114	140	164	213	256	321	357	392	.9	1.6	
AVERAGE		60.0	.030	0	-	2.39	99.8	91.8	95.8	133	89	100	115	139	166	219	263	327	363	402	1.2	1.9	

SAMPLES 58





TABLE 3. - MOTOR GASOLINE SURVEY, SUMMER 1973  
AVERAGE DATA FOR DIFFERENT BRANDS--CONTINUED

DIST. 2 MID-ATLANTIC COAST--CONTINUED  
R.I., CONN., N.J., DEL., MD., VA., CENTRAL AND SOUTHERN N.Y., AND EASTERN PA.

PREMIUM-PRICE GASOLINE

ITEM	SAM- PLES	GR., ASTM D287 API	SULF., ASTM D1266 WT %	GUM, ASTM D381 MG	PHOS., ASTM D3231 G/GAL	LEAD, ASTM D526 G/GAL	OCTANE NUMBER		RVP, ASTM D323 LB	20V/L ASTM D439 F	DISTILLATION, ASTM D86											RES LOSS % %	
							RES, ASTM D2699	MOT, ASTM D2700			R+M --=	TEMPERATURE, F (CORRECTED TO 760 MM HG)	PERCENT EVAPORATED										
													IBP	5	10	20	30	50	70	90	95		EP
43	9	60.5	0.022	-	-	2.46	99.4	92.1	95.8	9.8	136	90	103	118	146	173	219	260	327	363	415	0.9	1.8
44	3	60.4	.032	-	-	2.43	99.2	91.8	95.5	8.5	143	89	108	123	149	178	224	264	336	384	420	1.8	1.2
45	8	57.3	.027	0	0.012	3.00	99.9	91.8	95.9	10.0	133	89	106	118	139	162	214	261	318	346	381	.9	1.5
46	2	60.9	-	-	-	2.46	99.1	92.1	95.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
47	11	58.4	.030	0	.083	2.87	100.6	91.4	96.0	9.5	137	91	105	119	142	169	226	274	336	361	399	1.0	1.9
48	22	60.0	.016	1	.004	2.65	100.1	92.2	96.2	9.7	136	92	107	122	145	170	220	262	328	366	411	1.1	1.6
49	15	60.6	.022	2	.014	2.55	99.6	92.1	95.9	9.3	138	89	106	119	144	171	223	266	331	369	414	1.0	1.6
50	8	60.0	.044	0	.006	2.65	99.1	91.3	95.2	10.4	133	87	104	119	146	173	220	265	332	369	407	1.1	2.1
51	21	59.8	.022	1	.007	2.44	99.1	92.0	95.6	10.2	133	89	104	118	142	166	219	265	325	362	404	1.0	1.8
52	15	57.9	.016	1	.004	2.82	99.8	92.1	96.0	9.1	138	94	108	121	142	167	222	269	330	363	397	1.1	1.6
53	7	60.9	.023	-	-	2.52	99.3	91.3	95.3	10.4	131	90	104	115	134	157	214	260	328	361	410	.9	1.6
54	21	61.1	.027	1	.005	2.23	99.4	91.4	95.4	10.1	133	91	104	117	140	166	217	258	320	361	408	1.1	1.8
55	21	60.2	.019	0	.001	2.86	100.1	91.8	96.0	10.5	130	90	102	116	137	159	208	258	328	366	411	1.2	2.0
56	8	60.5	.024	-	-	2.47	99.4	91.6	95.5	9.8	135	90	105	119	146	174	219	259	330	365	411	1.0	1.7
57	15	60.4	.026	0	.025	2.55	99.7	91.9	95.8	9.8	136	89	107	122	147	173	219	260	333	368	414	.9	1.8
58	15	60.1	.018	0	.005	2.28	99.2	92.4	95.8	10.4	129	90	103	114	132	152	206	272	340	376	423	1.0	1.9
59	13	52.5	.012	1	.006	.02	100.9	90.3	95.6	9.9	137	88	104	116	144	181	238	270	332	362	408	.9	1.9
AVERAGE		59.5	.024	1	.014	2.43	99.6	91.7	95.7	9.8	135	90	105	119	142	168	219	264	330	365	408	1.1	1.7
SAMPLES	214																						





TABLE 3. - MOTOR GASOLINE SURVEY, SUMMER 1973  
 DIST. 3 SOUTHEAST--CONTINUED  
 AVERAGE DATA FOR DIFFERENT BRANDS--CONTINUED  
 N.C., S.C., GA., FLA., ALA., AND EASTERN TENN.

PREMIUM-PRICE GASOLINE

ITEM	SAM- PLES	GR., ASTM D287 API	SULF., ASTM D1266 WT %	GUM, ASTM D381 MG	PHOS., ASTM D3231 G/GAL	LEAD, ASTM D526 G/GAL	OCTANE NUMBER			RVP, ASTM D323 LB	20V/L ASTM D439 F	DISTILLATION, ASTM D86												RES %	LOSS %
							RES, ASTM D2699	MOT., ASTM D2700	R+M --= 2			TEMPERATURE, F (CORRECTED TO 760 MM HG)													
												PERCENT EVAPORATED													
												IBP	5	10	20	30	50	70	90	95	EP				
78	23	52.7	0.020	-	-	0.01	101.3	90.8	96.1	9.9	138	92	106	120	149	184	239	267	328	353	394	1.0	1.7		
79	3	61.0	-	-	-	2.73	99.6	91.6	95.6	9.2	136	88	105	118	139	160	212	258	342	377	424	1.0	1.5		
80	3	60.4	.037	-	-	2.51	99.8	92.1	96.0	9.1	140	96	110	124	149	178	222	259	336	370	414	.7	1.8		
81	8	61.7	.036	0	-	2.36	99.6	91.6	95.6	9.8	136	90	104	120	146	173	219	255	335	362	411	1.1	2.0		
82	15	61.4	.022	-	-	2.91	99.8	92.4	96.1	10.0	134	92	106	120	142	167	217	258	325	357	395	1.2	1.8		
83	24	63.1	.032	-	-	2.38	99.7	92.0	95.9	9.7	135	92	109	123	144	167	211	250	315	352	394	1.1	1.5		
84	14	59.1	.022	-	-	2.79	99.7	92.0	95.9	9.6	133	90	105	114	131	155	219	289	326	343	381	.8	1.5		
85	24	58.4	.021	-	-	2.63	99.8	92.5	96.2	9.2	140	91	110	124	148	175	227	272	334	362	402	1.2	1.4		
86	6	60.4	.024	-	-	2.82	99.9	92.9	96.4	9.7	136	88	100	117	144	171	223	261	324	363	403	1.1	1.5		
87	6	60.8	.022	-	-	2.55	99.7	91.9	95.8	9.9	134	89	103	117	142	168	213	256	331	368	417	.8	2.0		
88	14	59.3	.018	-	-	2.69	99.5	91.9	95.7	9.5	138	89	108	125	149	174	221	274	345	377	422	1.2	1.4		
89	1	61.9	-	-	-	2.86	99.7	92.4	96.1	9.2	132	103	-	107	131	-	197	-	311	-	387	1.0	2.0		
90	3	59.1	.029	-	-	2.69	100.1	92.2	96.2	8.3	142	94	110	122	143	164	218	264	320	356	412	1.3	.7		
91	27	61.2	.024	-	-	2.77	99.6	92.3	96.0	9.7	137	92	108	124	148	173	219	256	311	337	382	1.0	1.6		
92	9	60.5	.026	-	-	2.22	99.7	91.8	95.8	9.7	133	90	104	115	138	158	212	258	322	357	398	.7	1.5		
93	6	62.6	.042	-	-	3.00	99.8	92.6	96.2	9.7	137	92	108	122	148	174	216	253	334	381	410	.6	1.7		
94	6	59.0	.015	-	-	2.81	99.7	91.9	95.8	9.6	136	91	107	118	141	163	222	286	345	371	430	.9	1.4		
95	6	60.7	.028	-	-	2.41	99.6	91.8	95.7	9.4	136	91	104	117	141	166	214	254	327	369	413	.7	2.1		
AVERAGE	198	60.2	.026	0	-	2.51	99.8	92.0	95.9	9.5	136	92	106	119	143	169	218	263	328	362	405	1.0	1.6		



TABLE 3. - MOTOR GASOLINE SURVEY, SUMMER 1973  
AVERAGE DATA FOR DIFFERENT BRANDS--CONTINUED

DIST. 4 APPALACHIAN--CONTINUED  
OHIO, W. VA., WESTERN N.Y., WESTERN PA., EASTERN KY., AND PART OF MD.

PREMIUM-PRICE GASOLINE

ITEM	SAM- PLES	GR., ASTM D287 API	SULF., ASTM D1266 WT %	GUM, ASTM D381 MG	PHOS., ASTM D3231 G/GAL	LEAD, ASTM D526 G/GAL	OCTANE NUMBER		RVP, ASTM D323 LB	20V/L ASTM D439 F	DISTILLATION, ASTM D.6										RES %	LOSS %									
							RES, ASTM D2699	MOV, ASTM D2700			TEMPERATURE, F (CORRECTED TO 760 MM HG)																				
											R+M --	PERCENT EVAPORATED																			
												2	IBP	5	10	20	30	50	70	90			95	EP							
113	6	54.4	0.007	0	0.001	0.04	101.0	90.7	95.9	10.5	133	84	99	112	141	180	234	263	325	353	390									0.8	2.2
114	7	62.9	.025	0	.000	2.34	99.3	91.5	95.4	9.9	135	90	107	121	145	169	215	259	340	388	440									1.1	2.2
115	3	64.7	.032	-	-	2.05	99.3	91.4	95.4	10.4	130	87	101	114	138	165	212	248	322	370	416									1.2	1.8
116	1	64.1	.024	2	.002	2.40	98.9	91.9	95.4	10.8	127	90	100	113	135	160	206	250	345	384	431									1.0	3.0
117	14	62.3	.017	1	.002	2.92	100.0	92.1	96.1	10.2	132	93	105	118	141	165	212	254	326	362	407									1.1	1.9
118	18	64.5	.014	1	.000	2.42	99.6	92.5	96.1	10.2	133	93	107	120	145	170	211	248	321	359	403									1.0	2.3
119	8	64.4	.017	1	.008	2.17	99.0	92.8	95.9	10.1	132	90	106	119	141	165	207	244	316	353	388									1.0	1.9
120	10	62.3	.012	0	.002	2.45	99.8	91.2	95.5	11.4	125	86	101	111	132	155	208	253	321	355	395									1.0	2.0
121	15	61.2	.007	1	.000	2.02	99.2	92.1	95.7	10.3	130	87	102	114	136	159	208	267	336	369	421									1.1	2.4
122	13	58.1	.010	1	.004	1.99	100.3	92.1	96.2	10.1	137	90	105	123	151	183	229	269	331	371	414									1.2	1.8
123	1	56.0	.010	0	.000	3.16	99.4	-	49.7	10.7	133	85	99	119	150	176	228	280	344	375	421									1.0	2.0
124	15	62.8	.063	0	.000	2.48	98.9	91.9	95.4	10.9	130	87	101	117	143	169	212	248	319	364	417									1.0	2.2
125	1	60.3	.017	0	.008	2.20	99.4	92.0	95.7	10.3	131	94	103	113	135	161	222	271	348	372	427									1.0	4.0
126	13	60.0	.008	1	.009	2.30	98.8	91.8	95.3	10.3	132	88	101	114	139	166	220	270	328	351	393									1.0	2.2
127	13	60.0	.012	3	.001	2.56	99.7	91.8	95.8	9.8	134	89	106	119	141	163	214	255	313	349	399									1.0	2.0
128	21	62.8	.010	0	.004	2.72	100.0	92.0	96.0	10.3	132	91	105	118	141	164	211	252	319	354	402									1.1	2.1
129	7	63.0	.040	-	-	2.45	99.6	92.3	96.0	9.5	135	93	105	118	140	165	213	258	329	367	419									1.0	1.8
AVERAGE		61.4	.019	1	.003	2.27	99.5	91.9	95.7	10.3	132	89	103	117	141	167	215	258	328	364	411									1.0	2.2
SAMPLES	166																														

166  
SAMPLES





TABLE 3. - MOTOR GASOLINE SURVEY, SUMMER 1973  
AVERAGE DATA FOR DIFFERENT BRANDS--CONTINUED

DIST. 5 MICHIGAN--CONTINUED

PREMIUM-PRICE GASOLINE

ITEM	SAM- PLES	GR., ASTM D287 API	SULF., ASTM D1266 WT %	GUM, ASTM D381 MG	PHOS., ASTM D3231 G/GAL	LEAD, ASTM D526 G/GAL	OCTANE NUMBER		RVP, ASTM D323 LB	20V/L ASTM D439 F	DISTILLATION, ASTM D86										RES LOSS			
							RES, ASTM D2699	MOT., ASTM D2700			R+M ---	TEMPERATURE, F (CORRECTED TO 760 MM HG)										EP	%	LOSS %
												PERCENT EVAPORATED												
												5	10	20	30	50	70	90	95					
143	11	62.0	0.020	1	0.008	2.65	99.8	92.2	96.0	130	91	103	117	138	160	205	241	300	330	378	0.8	2.1		
144	4	63.1	.011	2	.000	2.28	99.5	91.8	95.7	133	87	104	119	146	172	218	253	320	352	401	.6	1.4		
145	3	-	-	-	-	-	99.1	91.4	95.3	133	92	102	117	143	170	212	244	312	347	405	.9	2.2		
146	4	62.3	.027	2	.004	2.51	99.4	92.2	95.8	132	88	103	118	143	171	214	255	341	384	426	.8	1.7		
147	9	65.4	.010	1	.000	1.89	99.6	93.0	96.3	131	89	103	117	143	171	213	244	314	350	396	.9	2.0		
148	11	63.8	.040	0	.005	2.58	99.2	93.6	96.4	134	86	109	125	154	180	220	264	331	361	405	.6	1.2		
149	5	63.7	.030	1	.004	1.81	99.4	92.2	95.8	131	85	101	116	139	167	213	244	331	371	423	.9	1.8		
150	1	66.8	-	-	-	2.56	99.8	91.1	95.5	127	96	-	119	132	-	185	-	311	-	396	1.0	1.0		
151	11	60.9	.013	1	.000	1.62	100.0	92.3	96.2	133	92	103	120	146	177	221	253	315	349	401	1.0	2.4		
152	11	66.7	.070	2	.008	2.01	98.8	92.1	95.5	129	88	100	115	142	169	207	237	320	366	418	1.0	2.6		
153	1	66.5	-	-	-	3.00	99.9	91.7	95.8	128	93	-	117	131	-	184	-	309	-	390	1.0	2.0		
154	5	60.5	.006	2	.009	2.17	99.2	92.2	95.7	136	90	108	122	149	177	223	264	324	352	407	.9	2.1		
155	8	60.3	.013	2	.001	2.57	99.0	91.8	95.4	133	91	105	118	139	160	211	255	318	355	400	.9	1.8		
156	17	59.1	.014	1	.000	2.84	99.3	92.5	95.9	137	92	105	121	150	175	212	243	297	335	388	.8	2.5		
157	5	64.0	.028	1	.007	1.85	99.2	91.9	95.6	135	88	107	121	145	172	217	253	341	382	424	.8	1.7		
AVERAGE		63.2	.024	1	.004	2.31	99.4	92.1	95.8	132	90	104	119	143	171	210	250	319	356	404	.9	1.9		
SAMPLES		106																						





TABLE 3. - MOTOR GASOLINE SURVEY, SUMMER 1973  
AVERAGE DATA FOR DIFFERENT BRANDS--CONTINUED

DIST. 6 NORTH ILLINOIS--CONTINUED  
NORTHERN IND., NORTHERN ILL., EASTERN IOWA, AND WIS.

PREMIUM-PRICE GASOLINE

ITEM	SAMPLES	GR., ASTM D287 API	SULF., ASTM D1266 WT %	GUM, ASTM D381 MG	PHOS., ASTM D3231 G/GAL	LEAD, ASTM D526 G/GAL	OCTANE NUMBER		RVP, ASTM D323 LB	20V/L ASTM D439 F	DISTILLATION, ASTM D86												RES LOSS % X	
							RES, ASTM D2699	MOT, ASTM D2700			R+M --	TEMPERATURE, F (CORRECTED TO 760 MM HG)		PERCENT EVAPORATED										
												IBP	5	10	20	30	50	70	90	95	EP	RES %	LOSS %	
172	4	63.9	0.026	2	0.003	2.21	99.3	93.0	96.2	10.4	133	90	107	121	149	177	216	249	329	370	412	0.9	1.9	
173	7	59.7	.012	0	.000	2.85	99.4	92.8	96.1	9.6	136	95	106	124	151	176	211	238	287	328	373	.7	3.0	
174	1	-	-	-	-	-	99.8	92.0	95.9	10.0	132	90	100	115	137	161	211	253	312	343	402	.9	2.3	
175	8	66.6	.029	1	.003	2.09	98.8	92.6	95.7	10.5	131	92	103	118	146	175	211	236	326	376	418	1.0	2.4	
176	7	57.7	.013	1	.000	2.20	100.3	93.1	96.7	9.4	140	94	108	124	154	184	223	257	323	354	404	1.0	2.1	
177	6	63.8	-	-	-	2.18	99.2	92.4	95.8	10.0	133	90	104	119	142	168	210	241	322	366	413	.9	1.9	
178	3	64.2	.025	-	-	2.00	99.3	92.9	96.1	10.6	129	86	99	113	141	166	207	236	313	351	404	1.2	1.8	
179	1	-	-	-	-	-	98.7	92.0	95.4	9.8	133	92	105	120	143	165	207	248	329	366	410	.8	2.0	
180	2	65.2	.046	-	-	2.27	99.6	92.4	96.0	11.2	126	86	101	113	140	169	205	234	315	360	428	1.0	2.0	
181	2	65.0	.034	-	-	2.19	99.6	93.0	96.3	9.7	134	84	96	112	143	175	212	245	327	378	410	1.0	1.4	
182	3	63.2	.021	-	-	2.52	99.0	92.1	95.6	9.5	133	88	103	116	138	158	202	245	336	401	422	1.0	1.0	
183	3	66.2	.068	-	-	1.91	99.2	92.4	95.8	12.0	125	86	100	116	144	175	209	239	336	381	414	1.0	.6	
184	7	62.9	.014	1	.000	2.37	99.1	92.0	95.6	9.9	134	92	103	118	144	172	214	248	322	362	409	.9	2.4	
185	7	61.1	.018	3	.002	2.82	100.3	91.9	96.1	9.7	133	92	104	117	139	162	208	246	307	341	380	.9	2.4	
AVERAGE		63.3	.028	1	.001	2.30	99.4	92.5	96.0	10.2	132	90	103	118	144	170	210	244	320	363	407	.9	1.9	
SAMPLES		61																						

TABLE 3. - MOTOR GASOLINE SURVEY, SUMMER 1973  
 AVERAGE DATA FOR DIFFERENT BRANDS--CONTINUED  
 DIST. 7 CENTRAL MISSISSIPPI  
 WESTERN KY., SOUTHERN IND., SOUTHERN ILL., AND EASTERN MO.

## REGULAR-PRICE GASOLINE

ITEM	SAM- PLES	GR., ASTM D287 API	SULF., ASTM D1266 WT %	GUM, ASTM D381 MG	PHOS., ASTM D3231 G/GAL	LEAD, ASTM D526 G/GAL	OCTANE NUMBER		RVP, ASTM D323 LB	20V/L ASTM D439 F	DISTILLATION, ASTM D86											RES %	LOSS %		
							RES., ASTM D2699	MOT., ASTM D2700			TEMPERATURE, F (CORRECTED TO 760 MM HG)		PERCENT EVAPORATED												
											R+M --=	2	IBP	5	10	20	30	50	70	90	95			EP	
186	6	60.2	0.056	-	-	2.64	94.6	86.4	90.5	9.0	137	90	106	118	140	163	208	257	337	377	415	1.0	1.6		
187	6	57.9	.031	-	-	1.45	93.9	86.2	90.1	9.6	137	88	104	118	143	170	225	285	354	381	414	1.1	1.7		
188	3	59.3	.055	-	-	.87	93.6	85.0	89.3	9.6	136	88	104	117	142	170	222	280	355	389	422	1.0	2.0		
189	2	58.7	.009	-	-	2.11	94.1	86.6	90.4	9.5	137	90	105	120	144	170	226	285	354	383	410	.9	1.6		
190	9	59.2	.033	-	-	2.12	93.8	86.0	89.9	9.6	137	88	106	120	147	173	221	274	354	396	430	.9	2.1		
191	3	59.9	.037	-	-	1.91	93.4	85.3	89.4	9.5	136	91	105	118	140	165	220	282	368	411	440	.6	1.9		
192	2	59.8	.056	-	-	2.38	93.2	86.3	89.8	8.9	139	91	108	122	145	168	216	268	345	386	434	1.2	1.3		
193	6	59.8	.046	-	-	1.91	93.9	86.3	90.1	9.8	132	87	101	113	135	157	208	268	355	390	435	.9	1.6		
194	9	60.7	.042	-	-	2.08	94.2	86.6	90.4	9.8	132	88	103	115	136	158	206	258	334	370	414	.9	1.7		
195	3	59.8	.033	-	-	1.04	94.1	86.3	90.2	8.9	139	92	111	126	147	168	211	255	332	369	423	.9	1.6		
196	3	58.5	.022	-	-	.83	93.7	85.1	89.4	9.4	140	90	110	123	151	179	232	286	360	389	424	.9	1.1		
197	6	61.2	.056	-	-	1.46	94.2	85.7	90.0	9.9	134	89	105	118	140	165	219	271	351	387	426	.8	1.8		
198	9	60.3	.030	1	0.003	1.97	93.9	86.5	90.2	9.6	134	90	106	117	140	162	213	271	349	397	422	1.0	1.8		
199	9	58.7	.045	-	-	1.85	94.4	86.9	90.7	9.0	140	91	107	120	148	174	224	272	342	381	424	1.0	1.5		
200	3	59.6	.083	-	-	1.65	94.2	86.3	90.3	10.5	131	86	101	115	140	165	216	269	342	390	422	1.2	1.8		
201	3	59.0	.028	-	-	1.77	93.9	86.4	90.2	10.0	133	87	105	119	144	167	206	256	349	381	406	.7	2.3		
202	3	61.0	.027	-	-	2.57	93.6	86.9	90.3	9.5	134	92	101	114	138	162	212	273	358	385	418	.4	2.6		
203	3	59.3	.035	-	-	1.70	93.6	86.4	90.0	10.0	133	88	106	118	141	165	217	273	351	392	416	.8	1.2		
204	10	60.0	.033	0	.002	2.76	94.0	87.1	90.6	9.4	137	90	107	118	145	172	222	276	344	387	415	.9	2.2		
205	9	60.4	.027	-	-	2.09	94.3	86.8	90.6	9.1	138	92	109	121	143	167	216	265	337	373	419	1.0	1.7		
AVERAGE		59.7	.039	1	.003	1.86	93.9	86.3	90.1	9.5	136	89	106	119	142	167	217	271	349	386	421	.9	1.8		
SAMPLES		107																							

TABLE 3. - MOTOR GASOLINE SURVEY, SUMMER 1973  
DIST. 7 CENTRAL MISSISSIPPI--CONTINUED  
AVERAGE DATA FOR DIFFERENT BRANDS--CONTINUED  
WESTERN KY., SOUTHERN IND., SOUTHERN ILL., AND EASTERN MO.

PREMIUM-PRICE GASOLINE

ITEM	SAM- PLES	GR., ASTM D287 API	SULF., ASTM D1266 WT %	GUN, ASTM D381 MG	PHOS., ASTM D3231 G/GAL	LEAD, ASTM D526 G/GAL	OCTANE NUMBER		RVP, ASTM D323 LB	20V/L ASTM D439 F	DISTILLATION, ASTM D86												RES LOSS %	RES %																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
							RES, ASTM D2699	MOT, ASTM D2700			R+M ---	TEMPERATURE, F (CORRECTED TO 760 MM HG)		PERCENT EVAPORATED																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
												IBP	EP	5	10	20	30	50	70	90	95																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						



TABLE 3. - MOTOR GASOLINE SURVEY, SUMMER 1973  
AVERAGE DATA FOR DIFFERENT BRANDS--CONTINUED

DIST. 8 LOWER MISSISSIPPI  
MISS., LA., EASTERN AND SOUTHERN ARK., AND WESTERN TENN.

REGULAR-PRICE GASOLINE

ITEM	SAM- PLES	GR., ASTM D287 API	SULF., ASTM D1266 WT %	GUM, ASTM D381 MG	PHOS., ASTM D3231 G/GAL	LEAD, ASTM D526 G/GAL	OCTANE NUMBER		RVP, ASTM D323 LB	20V/L ASTM D439 F	DISTILLATION, ASTM D86											RES X	LOSS X	
							RES, ASTM D2699	MOT, ASTM D2700			R+W ---	TEMPERATURE, F (CORRECTED TO 760 MM HG)												
												PERCENT EVAPORATED												
												IBP	5	10	20	30	50	70	90	95	EP			
227	10	61.4	0.032	-	-	2.53	94.0	86.7	90.4	137	90	110	121	140	161	203	256	343	376	412	0.9	1.5		
228	3	60.4	.023	-	-	2.09	94.3	87.0	90.7	138	98	116	124	136	149	183	242	350	386	422	1.0	1.0		
229	3	61.4	.074	-	-	3.67	93.0	87.2	90.1	143	99	111	126	146	166	208	257	338	389	436	.9	1.6		
230	3	63.3	.022	-	-	2.79	93.3	88.1	90.7	137	94	111	121	141	161	205	258	335	352	412	.7	1.3		
231	3	60.2	.063	-	-	2.38	94.0	86.1	90.1	137	92	112	125	144	164	211	274	353	388	432	.9	1.1		
232	7	61.4	.054	0	-	2.69	93.6	86.7	90.2	138	95	116	126	144	163	207	263	339	365	417	1.0	1.5		
233	3	-	-	-	-	-	95.2	87.6	91.4	140	92	109	128	153	174	221	275	360	390	419	1.0	1.8		
234	11	60.2	.052	-	-	2.72	94.4	87.1	90.8	134	89	106	119	138	158	206	275	361	393	423	1.0	1.4		
235	12	60.6	.033	-	-	1.84	93.6	87.0	90.3	136	90	109	122	141	161	210	262	342	371	414	.9	1.1		
236	10	61.8	.054	0	-	2.47	93.5	86.8	90.2	136	92	108	122	141	159	201	257	326	364	412	1.1	1.2		
237	2	60.2	-	-	-	-	94.4	85.6	90.0	138	94	109	122	144	167	221	278	358	391	426	.6	1.8		
238	12	59.4	.037	-	-	2.37	94.4	86.9	90.7	138	88	108	121	145	169	218	271	357	385	416	.9	1.6		
239	11	61.3	.065	-	-	2.52	94.0	86.6	90.3	139	93	111	123	141	160	205	264	341	374	416	1.0	1.5		
240	9	59.1	.026	-	-	1.28	93.9	86.5	90.2	137	91	107	120	143	163	210	265	340	376	414	1.2	1.7		
241	1	59.1	-	-	-	3.06	92.8	86.9	89.9	133	72	-	107	134	-	219	-	364	-	432	1.0	1.0		
242	3	60.4	.057	-	-	2.70	94.2	85.6	89.9	139	90	106	119	141	162	211	266	351	387	436	1.1	1.9		
243	13	60.0	.034	-	-	2.80	94.2	86.9	90.6	137	90	111	124	144	166	212	262	335	366	414	1.0	1.6		
244	2	59.3	.041	-	-	2.67	94.5	86.9	90.7	136	90	107	117	139	159	210	275	361	389	420	.7	1.3		
245	3	63.0	.033	-	-	2.58	93.6	87.9	90.8	139	94	114	126	147	168	214	268	339	368	410	1.5	.5		
AVERAGE		60.7	.044	0	-	2.54	93.9	86.8	90.4	137	91	110	122	142	163	209	265	347	378	420	1.0	1.4		
SAMPLES																								







TABLE 3. - MOTOR GASOLINE SURVEY, SUMMER 1973  
 AVERAGE DATA FOR DIFFERENT BRANDS--CONTINUED  
 DIST. 9 NORTH PLAINS--CONTINUED  
 MINN., N. DAK., AND S. DAK.

PREMIUM-PRICE GASOLINE

ITEM	SAM- PLES	GR., ASTM D287 API	SULF., ASTM D1266 WT %	GUM, ASTM D381 MG	PHOS., ASTM D3231 G/GAL	LEAD, ASTM D526 G/GAL	OCTANE NUMBER		RVP, ASTM D323 LB	20V/L ASTM D439 F	DISTILLATION, ASTM D86													RES LOSS % %	
							RES, ASTM D2699	MOT., ASTM D2700			R+M --	TEMPERATURE, F (CORRECTED TO 760 MM HG)		PERCENT EVAPORATED											
												IBP	5	10	20	30	50	70	90	95	EP	RES %	LOSS %		
277	3	67.1	0.057	-	-	2.33	99.0	93.3	96.2	138	90	107	123	154	178	211	238	320	361	410	1.2	0.8			
278	6	67.3	.011	-	-	2.81	99.3	93.9	96.6	132	92	104	119	147	173	208	237	312	362	395	1.1	2.1			
279	3	62.0	.041	-	-	2.73	96.7	90.3	93.5	137	90	107	119	147	170	210	253	316	369	406	1.5	1.0			
280	3	61.7	.034	-	-	2.43	99.2	92.5	95.9	135	86	104	119	141	165	204	235	314	358	404	1.2	1.3			
281	6	66.8	.015	-	-	1.78	99.2	92.0	95.6	134	92	106	120	142	166	206	239	307	346	392	1.0	1.8			
282	3	64.2	.040	-	-	2.35	98.9	92.0	95.5	137	92	109	123	148	172	208	240	322	369	414	1.2	1.0			
283	3	68.4	.058	-	-	2.40	99.6	94.4	97.0	133	92	109	123	149	174	204	229	304	347	396	1.2	1.8			
284	3	62.2	.078	-	-	2.63	99.1	92.3	95.7	141	88	107	123	150	174	213	247	323	347	404	.9	1.6			
285	3	63.6	.010	-	-	2.87	99.3	95.6	97.5	141	86	105	124	157	184	216	243	309	351	382	1.2	1.8			
286	3	63.6	.017	-	-	3.25	99.3	96.7	98.0	136	84	101	117	149	179	213	242	309	341	390	.8	2.2			
287	6	64.8	.035	-	-	2.59	99.0	93.3	96.2	138	86	104	124	151	174	209	240	318	359	402	.9	2.0			
288	3	67.9	.069	-	-	2.26	99.3	93.8	96.6	133	88	104	116	144	169	202	225	296	352	390	.8	2.2			
289	3	64.1	.034	-	-	2.45	99.2	92.9	96.1	140	90	105	121	148	174	211	243	320	368	404	1.4	1.6			
290	4	67.5	.064	0	-	2.33	99.2	93.5	96.4	134	90	107	123	152	177	210	236	320	379	400	1.1	.9			
AVERAGE		65.1	.040	0	-	2.52	99.0	93.3	96.2	136	89	106	121	149	174	209	239	314	358	399	1.1	1.6			
SAMPLES		52																							

SAMPLES 52



TABLE 3. - MOTOR GASOLINE SURVEY, SUMMER 1973  
AVERAGE DATA FOR DIFFERENT BRANDS--CONTINUED  
DIST. 10 CENTRAL PLAINS--CONTINUED  
NEBR., CENTRAL AND WESTERN IOWA, NW MO., AND NORTHERN KANS.

PREMIUM-PRICE GASOLINE

ITEM	SAM- PLES	GR., ASTM D287 API	SULF., ASTM D1266 WT %	GUM, ASTM D381 MG	PHOS., ASTM D3231 G/GAL	LEAD, ASTM D526 G/GAL	OCTANE NUMBER		RVP, ASTM D323 LB	20V/L ASTM D439 F	DISTILLATION, ASTM D86													RES %	LOSS %		
							RES, ASTM D2699	MOT., ASTM D2700			R+M --	TEMPERATURE, F (CORRECTED TO 760 MM HG)		PERCENT EVAPORATED													
												IBP															
													5	10	20	30	50	70	90	95	EP						
303	13	65.0	0.038	1	-	2.74	99.1	91.8	95.5	134	92	106	119	141	164	207	241	296	334	371	0.7	2.2					
304	9	64.1	.035	-	-	2.46	99.2	92.3	95.8	140	91	110	123	146	169	211	245	323	361	413	1.1	1.1					
305	3	66.4	.041	-	-	1.97	99.0	91.5	95.3	142	92	108	121	145	167	208	239	311	352	412	1.2	1.3					
306	10	64.5	.035	1	-	2.31	98.9	91.4	95.2	143	94	112	125	149	172	213	250	322	366	411	1.1	1.5					
307	4	65.9	.036	1	-	1.99	98.9	92.9	95.9	142	96	120	132	158	179	212	255	332	382	411	.9	1.5					
308	3	65.1	-	-	-	2.14	99.3	92.3	95.8	139	92	114	127	148	169	210	243	315	368	407	.8	1.2					
309	15	66.1	.038	0	-	1.79	98.6	91.8	95.2	141	95	115	128	146	166	208	241	326	379	419	1.1	1.6					
310	3	64.6	-	-	-	2.18	99.2	91.8	95.5	141	92	110	122	146	169	211	246	323	369	414	1.1	1.9					
311	6	65.3	.026	-	-	2.16	98.8	91.4	95.1	140	92	109	123	145	168	207	240	313	355	407	1.2	1.6					
312	10	63.3	.013	0	-	2.54	98.2	92.1	95.2	136	89	102	119	147	175	219	256	331	366	413	.8	2.1					
313	8	64.4	.039	-	-	2.16	98.3	90.8	94.6	138	91	110	123	146	167	208	245	324	369	416	1.1	1.4					
314	9	64.8	.044	1	-	2.37	99.0	92.4	95.7	137	92	107	122	145	166	212	241	328	376	422	1.0	1.3					
AVERAGE		65.0	.035	1	-	2.23	98.9	91.9	95.4	139	92	110	124	147	169	211	245	320	365	410	1.0	1.6					
SAMPLES	93																										





TABLE 3. - MOTOR GASOLINE SURVEY, SUMMER 1973  
 AVERAGE DATA FOR DIFFERENT BRANDS--CONTINUED  
 DIST. 11 SOUTH PLAINS--CONTINUED  
 SOUTHERN KANS., SW MO., WESTERN ARK., OKLA., AND NORTHERN TEX.

## PREMIUM-PRICE GASOLINE

ITEM	SAM- PLES	GR., ASTM D287 API	SULF., ASTM D1266 WT %	GUM, ASTM D381 MG	PHOS., ASTM D3231 G/GAL	LEAD, ASTM D526 G/GAL	OCTANE NUMBER		RVP, ASTM D323 LB	20V/L ASTM D439 F	DISTILLATION, ASTM D86										RES LOSS		
							RES, ASTM D2699	MOT., ASTM D2700			TEMPERATURE, F (CORRECTED TO 760 MM HG)										EP	X	%
											PERCENT EVAPORATED												
											IBP	5	10	20	30	50	70	90	95				
335	5	63.1	-	-	-	2.34	99.4	92.2	95.8	8.9	143	94	112	128	155	183	222	262	340	380	425	1.5	1.3
336	5	60.9	0.009	-	-	2.75	98.3	92.0	95.2	8.9	138	92	105	120	144	169	208	241	308	342	394	.7	1.7
337	8	64.5	.042	0	0.000	2.48	99.1	92.7	95.9	9.4	137	92	109	124	149	172	210	241	319	363	409	1.1	1.5
338	10	63.3	.035	0	-	2.65	99.4	92.0	95.7	8.6	139	93	110	121	142	162	207	255	337	380	437	1.2	1.6
339	3	64.1	-	-	-	3.43	99.9	91.9	95.9	9.9	134	88	103	118	143	167	216	264	358	392	432	.9	1.6
340	3	63.5	-	-	-	2.59	99.7	91.6	95.7	8.7	141	92	110	124	149	174	219	256	331	373	424	.9	1.6
341	8	62.9	.019	-	-	2.41	98.8	91.9	95.4	9.6	134	90	104	119	142	162	205	240	307	339	380	1.1	1.6
342	7	66.8	.029	1	-	1.78	99.1	92.4	95.8	8.7	141	91	109	125	151	175	209	238	320	361	403	.8	2.0
343	3	62.3	.019	-	-	2.70	98.9	92.4	95.7	9.5	138	87	101	118	148	179	224	267	343	376	423	1.2	1.8
344	6	63.1	.028	1	-	2.58	99.0	93.2	96.1	9.2	141	87	110	127	156	184	226	262	337	378	414	1.1	1.7
345	3	61.5	-	-	-	2.82	99.8	92.8	96.3	8.3	139	90	108	119	139	155	199	229	278	318	378	1.3	.7
346	6	62.2	.013	-	-	2.66	99.5	92.3	95.9	8.9	139	92	107	122	145	168	214	256	320	359	404	1.0	2.0
347	17	64.6	.024	-	-	2.31	99.0	92.1	95.6	8.9	140	94	111	126	149	172	213	249	327	366	406	.8	1.6
348	5	66.2	.019	1	-	3.20	99.2	93.5	96.4	9.4	138	98	110	128	146	169	217	254	338	377	416	1.0	1.3
349	3	59.3	-	-	-	2.95	99.9	92.1	96.0	8.3	139	90	109	117	133	155	215	269	330	351	402	1.0	.4
350	5	64.9	.025	-	-	2.42	99.1	93.2	96.2	9.0	141	91	109	124	153	181	222	256	338	380	423	1.0	1.5
351	12	60.3	.019	1	-	2.80	98.6	92.3	95.5	8.9	141	94	110	125	151	177	224	259	333	372	414	1.0	1.6
352	7	63.4	.016	-	-	3.09	99.7	93.7	96.7	9.4	139	92	107	124	152	179	219	256	335	373	418	.8	2.1
353	15	61.8	.027	2	-	2.98	99.3	92.5	95.9	9.3	140	89	108	127	156	182	218	250	310	345	381	.8	2.0
354	2	66.5	.040	-	-	2.85	99.1	92.8	96.0	8.4	144	90	114	130	154	180	214	241	325	366	412	1.4	1.6
AVERAGE		63.3	.024	1	.000	2.69	99.2	92.5	95.9	9.0	139	91	108	123	148	172	215	252	327	365	409	1.0	1.6
SAMPLES																							

TABLE 3. - MOTOR GASOLINE SURVEY, SUMMER 1973  
AVERAGE DATA FOR DIFFERENT BRANDS--CONTINUED

DIST. 12 SOUTH TEXAS

REGULAR-PRICE GASOLINE

ITEM	SAM- PLES	GR., ASTM D287 API	SULF., ASTM D1266 WT %	GUM, ASTM D381 MG	PHOS., ASTM D3231 G/GAL	LEAD, ASTM D526 G/GAL	OCTANE NUMBER			RVP, ASTM D323 LB	20V/L ASTM D439 F	DISTILLATION, ASTM D86													RES %	LOSS %
							RES, ASTM D2699	MOT, ASTM D2700	R+M ---			TEMPERATURE, F (CORRECTED TO 760 MM HG)		PERCENT EVAPORATED												
												IBP	EP	5	10	20	30	50	70	90	95	EP				
355	6	62.7	-	-	-	1.52	93.3	86.9	90.1	8.9	136	92	110	122	139	156	202	266	339	371	413	1.0	1.4			
356	9	60.9	0.033	-	-	2.26	93.7	86.6	90.2	9.4	137	92	110	124	143	163	215	273	348	378	420	1.0	1.3			
357	10	60.9	0.043	0	0.001	3.22	94.0	87.2	90.6	8.5	140	94	111	125	143	162	206	266	344	377	411	1.1	1.2			
358	3	61.5	-	-	-	3.91	92.3	85.8	89.1	8.4	143	97	118	132	153	171	212	254	308	335	356	.8	1.7			
359	3	60.7	-	-	-	2.47	93.9	86.3	90.1	9.3	135	88	108	120	141	161	203	250	329	377	406	1.0	1.5			
360	4	59.2	-	-	-	1.33	94.1	86.7	90.4	9.8	135	91	112	129	148	169	211	258	335	367	407	1.0	1.3			
361	3	60.6	-	-	-	2.35	93.9	86.3	90.1	9.3	134	89	107	118	138	158	203	247	325	362	407	.9	1.1			
362	7	60.9	.037	2	.003	2.23	94.4	87.0	90.7	8.4	136	97	112	123	136	149	190	255	351	376	418	1.0	1.1			
363	1	61.9	.037	4	.001	2.00	94.6	86.1	90.4	8.8	134	92	108	119	137	153	190	250	346	392	416	1.0	2.0			
364	9	63.4	.022	1	-	2.62	93.3	87.9	90.6	9.5	135	96	109	123	142	161	205	253	326	361	405	1.0	1.8			
365	5	58.2	.023	0	.005	2.59	93.6	86.6	90.1	8.0	146	100	110	128	150	177	227	297	352	388	420	1.1	1.4			
366	3	61.0	-	-	-	1.96	94.0	85.9	90.0	9.4	135	89	105	118	138	161	210	268	336	369	398	1.2	1.8			
367	11	60.1	.029	1	.005	1.91	93.4	86.3	89.9	8.5	140	94	112	125	143	160	211	273	350	384	422	1.1	1.5			
368	11	59.5	.034	0	.009	2.71	94.0	86.8	90.4	8.0	146	97	114	131	152	172	218	268	344	379	423	1.0	1.5			
369	3	60.1	-	-	-	2.12	94.4	85.9	90.2	9.0	137	90	109	122	143	162	205	252	335	379	412	1.0	2.0			
AVERAGE	86	60.8	.032	1	.004	2.35	93.8	86.6	90.2	8.9	138	93	110	124	143	162	207	262	338	373	409	1.0	1.5			

SAMPLES



TABLE 3. - MOTOR GASOLINE SURVEY, SUMMER 1973  
AVERAGE DATA FOR DIFFERENT BRANDS--CONTINUED

DIST. 12 SOUTH TEXAS--CONTINUED

PREMIUM-PRICE GASOLINE

ITEM	SAM- PLES	GR., ASTM D287 API	SULF., ASTM D1266 WT %	GUM, ASTM D381 MG	PHOS., ASTM D3231 G/GAL	LEAD, ASTM D526 G/GAL	OCTANE NUMBER		RVP, ASTM D323 LB	20V/L ASTM D439 F	DISTILLATION, ASTM D86											RES % X	LOSS % X		
							RES, ASTM D2699	HDT, ASTM D2700			TEMPERATURE, F (CORRECTED TO 760 MM HG)														
											IBP	PERCENT EVAPORATED													
												5	10	20	30	50	70	90	95	EP					
370	1	53.0	0.002	0	0.013	1.50	100.8	91.3	96.1	8.9	140	86	100	113	143	178	232	262	326	345	394	1.0	1.0		
371	11	63.5	.019	0	.001	3.13	99.6	93.1	96.4	8.4	141	96	111	126	145	162	205	242	299	324	376	.9	1.2		
372	3	61.6	-	-	-	3.80	99.4	89.6	94.5	8.0	135	96	112	119	129	140	173	235	317	342	364	.8	1.2		
373	3	62.4	-	-	-	3.01	99.4	91.7	95.6	9.2	139	90	108	123	149	177	222	262	345	380	418	1.2	1.8		
374	3	60.4	-	-	-	2.99	99.7	91.9	95.8	9.1	139	90	108	124	148	177	219	264	348	382	414	1.2	1.3		
375	8	59.1	.038	-	-	2.87	99.4	91.7	95.6	9.2	140	88	108	125	152	178	223	265	339	373	416	1.0	1.5		
376	3	59.7	-	-	-	3.02	99.5	92.0	95.8	9.6	136	89	105	119	145	171	216	262	341	375	410	1.2	1.8		
377	7	59.1	.019	1	.003	2.86	99.6	91.7	95.7	8.9	136	94	111	122	138	155	205	263	350	379	420	1.0	1.1		
378	10	61.9	.019	-	-	2.54	99.6	91.9	95.8	9.4	137	91	110	123	144	163	212	248	318	337	392	1.0	1.0		
379	6	65.0	-	-	-	2.30	99.4	93.8	96.6	9.3	135	87	106	117	134	156	216	250	304	337	388	1.0	1.0		
380	9	64.4	.023	1	-	3.04	99.3	93.4	96.4	9.5	136	94	108	123	143	166	214	253	331	367	413	1.0	1.4		
381	5	58.1	.005	1	.005	2.88	100.0	92.3	96.2	8.5	142	97	105	124	145	169	223	282	327	368	397	.9	1.7		
382	3	63.8	-	-	-	3.01	99.3	91.1	95.2	9.4	135	88	107	121	140	162	211	253	341	373	412	1.1	.9		
383	11	59.6	.024	1	.001	2.79	99.4	92.3	95.9	9.3	139	93	109	125	147	169	229	272	334	355	405	1.0	1.6		
384	11	59.9	.026	1	.001	3.07	100.0	92.0	96.0	8.4	145	92	113	130	155	178	220	256	310	335	382	1.0	1.1		
AVERAGE		60.8	.019	1	.004	2.85	99.6	92.0	95.8	9.0	138	91	108	122	144	167	215	258	329	358	400	1.0	1.3		
SAMPLES	94																								



TABLE 3. - MOTOR GASOLINE SURVEY, SUMMER 1973  
 AVERAGE DATA FOR DIFFERENT BRANDS--CONTINUED

DIST. 13 SOUTH MT. STATES--CONTINUED  
 SW KANS., OKLA. AND TEX. PANHANDLES, W. TEX., N. MEX., COLO., UTAH, ARIZ., NEV., AND E. CALIF.

PREMIUM-PRICE GASOLINE

ITEM	SAM- PLES	GR., ASTM D287 API	SULF., ASTM D1266 WT %	GUM, ASTM D381 MG	PHOS., ASTM D3231 G/GAL	LEAD, ASTM D526 G/GAL	OCTANE NUMBER		RVP, ASTM D323 LB	20V/L ASTM D439 F	DISTILLATION, ASTM D86												RES %	LOSS %		
							RES, ASTM D2699	MOT, ASTM D2700			R+M ---	TEMPERATURE, F (CORRECTED TO 760 MM HG)														
												IBP	PERCENT EVAPORATED												EP	
													5	10	20	30	50	70	90	95						
401	6	61.4	0.016	-	-	2.61	98.1	89.6	93.9	143	89	110	125	153	179	233	280	354	387	429	0.8	1.5				
402	6	61.0	.017	-	-	2.29	97.1	89.4	93.3	137	91	110	124	149	174	220	269	338	375	414	.6	1.7				
403	23	59.4	.026	1	0.000	2.43	98.5	91.3	94.9	143	94	112	127	149	172	220	261	330	369	410	1.0	1.4				
404	3	61.8	.027	-	-	2.12	96.5	89.2	92.9	144	90	115	128	152	176	218	259	343	380	416	1.0	1.0				
405	13	62.2	-	-	-	2.68	97.7	91.3	94.5	144	94	115	132	158	181	223	265	345	389	419	1.0	1.3				
406	23	62.8	.022	1	.000	2.75	98.8	92.5	95.7	143	96	115	128	147	167	212	247	327	370	407	.9	1.0				
407	16	62.9	.040	2	.000	2.38	98.9	91.6	95.3	140	90	109	123	146	172	220	262	331	372	412	.8	1.5				
408	2	59.9	-	-	-	2.66	96.9	88.8	92.9	-	-	-	-	-	-	-	-	-	-	-	-	-				
409	19	66.6	.033	-	.000	1.54	98.2	91.3	94.6	144	98	116	128	144	163	210	245	332	379	416	.8	1.0				
410	20	67.3	.018	1	-	3.02	98.5	93.3	95.9	139	97	111	127	146	167	211	252	347	386	421	1.0	1.4				
411	15	58.7	.020	1	.000	2.59	99.3	92.1	95.7	146	96	116	132	155	177	219	259	327	367	403	1.0	1.1				
412	2	62.9	.024	-	-	2.25	96.4	89.6	93.0	135	89	107	120	140	163	208	251	339	379	426	.9	1.1				
413	21	62.3	.028	1	.001	2.73	98.5	92.1	95.3	141	93	113	126	148	171	215	257	335	377	415	1.0	1.2				
414	24	60.9	.026	4	.000	2.23	98.4	91.2	94.8	149	100	120	136	161	183	224	268	333	367	407	1.0	1.3				
415	36	60.9	.024	1	.000	2.57	98.8	91.4	95.1	145	97	117	132	154	177	219	257	322	355	395	.9	1.3				
416	14	59.2	.023	1	.000	2.66	98.6	91.3	95.0	144	95	113	130	153	176	221	265	332	367	415	1.0	1.6				
AVERAGE		61.9	.025	1	.000	2.47	98.1	91.0	94.6	142	94	113	128	150	173	218	260	336	375	414	.9	1.3				
SAMPLES	243																									





TABLE 3. - MOTOR GASOLINE SURVEY, SUMMER 1973  
 AVERAGE DATA FOR DIFFERENT BRANDS--CONTINUED  
 DIST. 14 NORTH MT. STATES--CONTINUED  
 WYO., MONT., IDAHO, EASTERN WASH., AND EASTERN OREG.

PREMIUM-PRICE GASOLINE

ITEM	SAM- PLES	GR., ASTM D287 API	SULF., ASTM D1266 WT %	GUM, ASTM D381 MG	PHOS., ASTM D3231 G/GAL	LEAD, ASTM D526 G/GAL	OCTANE NUMBER		RVP, ASTM D323 LB	20V/L ASTM D439 F	DISTILLATION, ASTM D86										RES LOSS			
							RES, ASTM D2699	MOT., ASTM D2700			R+M ---	TEMPERATURE, F (CORRECTED TO 760 MM HG)										EP	X	%
												PERCENT EVAPORATED												
												IBP	5	10	20	30	50	70	90	95				
430	13	64.3	0.026	1	0.000	2.33	99.5	91.2	95.4	10.6	129	81	98	111	135	162	208	242	317	356	394	1.0	2.5	
431	8	64.6	.031	1	.001	2.30	99.0	93.0	96.0	8.9	139	85	105	120	145	171	211	244	332	370	416	1.0	2.0	
432	16	64.4	.039	1	.000	2.32	98.6	92.0	95.3	9.2	139	89	110	125	149	174	215	249	337	376	409	1.0	1.7	
433	7	63.2	.030	1	.000	2.43	99.7	91.4	95.6	9.5	138	90	109	122	150	180	220	253	317	352	397	.8	2.7	
434	4	64.9	.036	-	-	1.78	98.5	91.0	94.8	9.6	138	89	108	124	154	179	213	246	329	370	422	.8	2.0	
435	10	65.0	.100	1	-	2.56	98.3	91.6	95.0	9.1	138	83	107	122	147	171	211	245	340	385	419	.9	2.0	
436	19	62.5	.034	1	.004	2.21	98.7	91.5	95.1	9.9	136	89	109	122	149	176	221	258	335	372	409	1.0	1.9	
437	11	64.7	.027	0	.001	2.01	99.5	91.4	95.5	10.2	131	83	100	115	140	167	209	241	312	357	393	1.0	2.7	
438	11	65.3	.024	0	.038	1.96	98.7	91.9	95.3	9.7	132	84	105	117	138	162	203	237	313	351	395	1.0	1.8	
439	10	65.9	.020	1	.002	2.04	98.8	91.9	95.4	9.4	137	92	112	125	147	168	208	240	305	337	374	.9	1.4	
440	14	62.1	.021	1	.000	2.39	99.7	91.3	95.5	9.9	136	91	108	122	148	172	217	255	326	358	401	1.0	2.1	
441	11	64.7	.038	1	.001	2.42	98.7	92.2	95.5	9.3	137	87	105	121	144	170	211	243	333	374	414	.9	2.0	
442	3	61.8	.019	-	-	2.43	99.2	92.4	95.8	9.7	141	92	115	132	164	191	226	258	317	349	410	.8	1.2	
AVERAGE		64.1	.034	1	.005	2.24	99.0	91.8	95.4	9.6	136	87	107	121	147	173	213	247	324	362	404	.9	2.0	
SAMPLES	137																							









TABLE 3. - MOTOR GASOLINE SURVEY, SUMMER 1973  
AVERAGE DATA FOR DIFFERENT BRANDS--CONTINUED

DIST. 16 NORTH CALIFORNIA--CONTINUED

PREMIUM-PRICE GASOLINE

ITEM	SAM- PLES	GR., ASTM D287 API	SULF., ASTM D1266 WT %	GUM, ASTM D381 MG	PHOS., ASTM D3231 G/GAL	LEAD, ASTM D526 G/GAL	OCTANE NUMBER		RVP, ASTM D323 LB	20V/L ASTM D439 F	DISTILLATION, ASTM D86													RES X	LOSS X
							RES, ASTM D2699	MOT., ASTM D2700			R+M ---	TEMPERATURE, F (CORRECTED TO 760 MM HG)					PERCENT EVAPORATED								
												IBP	5	10	20	30	50	70	90	95	EP				
472	8	58.3	0.009	1	0.000	1.99	99.6	92.1	95.9	143	93	110	128	155	180	224	266	333	359	398	0.9	1.9			
473	3	53.1	-	-	-	1.97	98.6	91.0	94.8	149	87	113	134	175	206	247	277	322	356	402	.8	1.7			
474	5	56.5	.009	1	.001	1.64	99.8	92.4	96.1	142	93	111	125	150	176	223	263	328	352	402	1.0	1.5			
475	5	54.3	.011	1	.001	2.10	99.0	91.0	95.0	149	92	110	134	168	197	237	271	323	349	400	.9	1.6			
476	8	59.3	.018	1	.003	2.47	99.6	92.0	95.8	147	98	116	135	162	186	226	266	337	366	404	.9	1.7			
477	3	58.5	-	-	-	1.57	99.6	91.9	95.8	-	-	-	-	-	-	-	-	-	-	-	-	-			
478	8	56.8	.008	1	.000	1.90	99.9	91.5	95.7	146	95	115	132	157	181	223	265	329	359	400	1.0	1.6			
479	8	58.4	.013	1	.001	2.37	99.3	91.3	95.3	143	95	113	131	154	178	221	262	329	358	406	1.0	1.8			
480	8	59.4	.015	1	.000	2.56	99.9	91.2	95.1	140	96	114	128	146	164	207	259	334	364	412	1.0	1.6			
481	8	59.4	.013	1	.001	1.66	99.8	92.2	96.0	141	92	108	126	151	176	221	261	324	354	397	1.0	1.8			
482	6	55.3	.006	1	.001	2.56	97.9	90.9	94.4	143	93	112	132	154	174	219	259	312	340	383	1.0	2.0			
AVERAGE		57.4	.011	1	.001	2.07	99.3	91.6	95.5	144	93	112	131	157	182	225	265	327	356	400	1.0	1.7			
SAMPLES	70																								





TABLE 3. - MOTOR GASOLINE SURVEY, SUMMER 1973  
AVERAGE DATA FOR DIFFERENT BRANDS--CONTINUED

DIST. 17 SOUTH CALIFORNIA--CONTINUED

PREMIUM-PRICE GASOLINE

ITEM	SAM- PLES	GR., ASTM D287 API	SULF., ASTM D1266 WT %	GUM, ASTM D381 MG	PHOS., ASTM D3231 G/GAL	LEAD, ASTM D526 G/GAL	OCTANE NUMBER		RVP, ASTM D323 LB	20V/L ASTM D439 F	DISTILLATION, ASTM D86											RES %	LOSS %
							RES, ASTM D2699	MOT., ASTM D2700			TEMPERATURE, F (CORRECTED TO 760 MM HG)												
												R+M ---	PERCENT EVAPORATED										
														IBP	5	10	20	30	50	70	90		
494	10	57.6	0.046	1	0.001	2.66	98.8	90.8	94.8	8.9	140	93	108	124	144	167	226	272	328	352	400	1.0	1.3
495	3	55.3	-	-	-	2.15	99.5	90.9	95.2	8.7	147	92	115	134	166	190	231	268	325	356	415	.8	2.2
496	5	57.7	.042	1	.001	2.44	99.1	90.9	95.0	9.3	138	90	108	121	142	166	225	272	329	361	412	1.0	1.4
497	8	58.3	.028	0	.001	2.74	99.1	91.8	95.5	8.7	142	91	107	125	151	177	224	267	332	364	412	1.0	1.7
498	10	58.2	.017	1	.000	3.08	98.6	91.5	95.1	8.9	140	92	110	124	146	169	216	261	332	373	419	.9	1.7
499	11	61.1	.034	1	.001	2.97	98.8	91.0	94.9	8.7	137	94	110	124	141	158	198	243	305	334	389	1.0	1.5
500	6	59.1	.021	1	.003	2.48	98.8	91.5	95.2	9.4	136	89	107	119	143	161	213	263	320	360	406	1.0	1.2
501	3	55.0	-	-	-	2.68	99.4	91.3	95.4	9.0	143	89	114	131	161	186	223	265	340	376	424	.9	1.6
502	12	59.8	.022	1	.001	2.76	99.5	91.8	95.7	9.1	141	94	112	128	151	177	218	261	326	362	405	1.0	1.4
503	11	57.5	.072	1	.001	2.22	99.8	90.6	95.2	8.8	143	92	111	129	154	178	222	264	335	365	422	1.0	1.7
504	12	60.9	.021	1	.001	2.93	99.2	91.5	95.4	9.0	139	94	110	125	146	171	214	262	321	353	398	1.0	1.8
AVERAGE		58.2	.034	1	.001	2.65	99.1	91.2	95.2	9.0	141	92	110	126	150	173	219	263	327	360	409	1.0	1.6
SAMPLES		91																					





TABLE 4. - MOTOR GASOLINE SURVEY, SUMMER 1973  
AVERAGE DATA FOR BRANDS IN EACH DISTRICT--CONTINUED

PREMIUM-PRICE GASOLINE

DISTRICT NO. AND NAME	NO. OF BRANDS	SAMP- LES	GR., ASTM D287 API	SULF., ASTM D1266 WT %	GUM, ASTM D381 MG	PHOS., ASTM D3231 G/GAL	LEAD, ASTM D526 G/GAL	OCTANE NUMBER			RVP, ASTM D3231 LB	20V/L ASTM D439 F	DISTILLATION, ASTM D86										RES	LOSS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
								RES, D2699	MOT., ASTM D2700	R+M --- ---			TEMPERATURE, F (CORRECTED TO 760 MM HG)					PERCENT EVAPORATED																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
													D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231			D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	D3231	

TABLE 5. - MOTOR GASOLINE SURVEY, SUMMER 1973  
DATA FOR SOME ADDITIONAL GRADES

THIRD-GRADE GASOLINE

DISTRICT AND ITEM NUMBERS	SAM- PLES	GR., ASTM D287 API	SULF., ASTM D1266 WT %	GUM, ASTM D361 MG	PHOS., ASTM D3231 G/GAL	LEAD, ASTM D526 G/GAL	OCTANE NUMBER			RVP, ASTM D323 LB	20V/L ASTM D439 F	DISTILLATION, ASTM D86																RES %	LOSS %				
							RES, ASTM D2699	MOT, ASTM D2700	R+M ---			TEMPERATURE, F (CORRECTED TO 760 MM HG)	PERCENT EVAPORATED																				
													IBP																				
														5	10	20	30	50	70	90	95	EP											
1 505	1	58.1	-	-	-	0.31	94.6	86.4	90.5	136	86	-	126	145	-	219	-	310	-	385	1.0	2.0											
1 506	2	58.9	-	-	-	.46	95.2	88.1	91.7	136	94	-	120	140	-	223	-	308	-	394	1.0	2.0											
1 507	1	61.7	-	-	-	.45	96.2	87.5	91.9	132	90	-	118	136	-	204	-	302	-	386	1.0	2.0											
1 508	4	59.5	-	-	-	.48	91.7	83.9	87.8	129	90	102	115	139	154	214	265	355	394	421	1.1	2.5											
1 509	1	58.8	-	-	-	.80	96.0	87.8	91.9	123	85	-	106	124	-	200	-	320	-	394	1.0	2.0											
1 510	2	58.6	-	-	-	.03	91.7	84.7	88.2	134	92	107	118	134	155	207	270	334	367	418	1.0	2.0											
1 511	3	58.1	-	-	-	.05	95.7	84.8	90.3	130	88	100	112	134	157	215	264	330	367	390	1.5	1.0											
2 512	10	59.2	0.055	2	0.011	.09	94.4	83.5	89.0	135	93	108	119	139	159	210	267	339	370	409	1.9	1.5											
2 513	8	59.6	.010	0	.015	.03	91.5	83.9	87.7	132	91	104	115	135	155	208	277	344	376	426	1.1	1.3											
2 514	12	58.7	.026	1	.008	.45	91.8	84.1	88.0	134	89	104	117	140	165	219	285	356	393	421	1.0	1.9											
2 515	1	60.2	.007	0	.018	.50	96.5	87.4	92.0	138	90	114	125	146	168	215	261	326	357	406	2.0	0											
2 516	11	58.4	.016	1	.010	.31	94.4	86.6	90.5	136	89	106	118	148	179	233	263	321	355	409	1.8	1.7											
2 517	1	58.3	.029	3	.000	1.62	93.0	86.0	89.5	140	90	106	120	141	165	228	299	368	402	432	1.0	2.5											
2 518	9	59.5	.022	0	.008	.45	93.9	85.4	89.7	144	91	110	127	157	186	231	277	349	398	423	1.0	1.3											
3 519	1	61.6	-	-	-	.20	96.4	87.6	92.0	131	94	-	115	130	-	200	-	313	-	379	1.0	1.5											
3 520	3	58.9	.031	-	-	.36	94.3	86.9	90.6	136	88	102	114	136	160	216	264	311	340	390	1.3	1.7											
3 521	8	59.8	.023	-	-	.07	92.2	82.9	87.6	141	93	113	125	145	164	202	246	328	374	425	1.0	1.3											
3 522	9	57.8	.024	-	-	.02	94.9	84.0	89.5	135	91	108	116	137	161	213	273	339	371	404	1.9	2.0											
3 523	9	60.9	.044	-	-	.43	91.8	83.6	87.7	136	87	105	116	138	163	207	255	322	359	401	1.0	1.5											
3 524	1	57.0	-	-	-	.00	91.5	82.7	89.1	136	96	-	123	150	-	214	-	330	-	411	1.0	2.0											
3 525	6	60.7	.018	-	-	.41	94.0	85.3	89.7	140	88	104	119	148	176	224	263	321	360	419	1.0	1.8											
4 526	3	57.1	.023	2	.012	.02	94.0	83.6	88.8	134	86	104	116	136	157	214	275	344	375	409	1.6	1.4											
4 527	7	59.4	.031	4	.014	.05	91.5	83.9	87.7	133	90	105	117	137	158	210	272	343	378	419	1.1	1.2											
4 528	15	60.0	.031	3	.008	.44	91.2	84.0	87.6	136	90	107	121	143	168	217	269	336	367	404	1.9	1.6											
4 529	8	59.1	.011	2	.023	.04	91.6	83.6	87.6	138	89	107	120	143	167	216	267	339	378	417	1.1	1.2											

TABLE 5. - MOTOR GASOLINE SURVEY, SUMMER 1973  
DATA FOR SOME ADDITIONAL GRADES--CONTINUED

THIRD-GRADE GASOLINE--CONTINUED

DISTRICT AND ITEM NUMBERS	SAM- PLES	GR., ASTM D287 API	SULF., ASTM D1266 WT %	GUM, ASTM D381 MG	PHOS., ASTM D3231 G/GAL	LEAD, ASTM D526 G/GAL	OCTANE NUMBER			RVP, ASTM D323 LB	20V/L ASTM D439 F	DISTILLATION, ASTM D86													RES % X	LOSS % X
							RES, ASTM D2699	MOT., ASTM D2700	R+W --=			TEMPERATURE, F (CORRECTED TO 760 MM HG)														
												PERCENT EVAPORATED														
												IBP	5	10	20	30	50	70	90	95	EP					
4 530	14	58.7	.018	0	.013	.33	94.1	86.3	90.2	9.8	134	89	106	119	142	167	215	260	315	350	397	1.1	1.5			
4 531	1	61.0	.019	3	.013	.04	91.0	83.0	87.0	7.9	144	93	115	126	144	161	212	268	335	381	401	1.2	.8			
4 532	13	59.7	.029	2	.053	.03	92.3	83.6	88.0	9.8	137	90	107	121	147	173	221	262	321	354	397	1.1	1.6			
4 533	3	63.1	-	-	-	.37	93.9	86.4	90.2	10.5	132	86	103	117	145	174	220	262	328	366	421	.8	1.7			
4 534	9	58.1	.022	2	.015	.51	93.5	85.1	89.3	10.0	137	87	104	120	149	180	230	272	325	351	382	.9	1.7			
5 535	5	62.5	.048	2	.007	.01	91.6	82.9	87.3	10.9	127	83	97	109	131	156	207	245	312	348	390	.9	2.1			
5 536	2	58.5	.053	-	-	.05	92.8	82.3	87.6	9.4	139	91	108	122	148	177	226	274	346	389	428	.9	2.1			
5 537	6	59.5	.021	1	.006	.37	91.0	83.2	87.1	10.2	133	88	105	119	144	167	214	261	323	355	397	.9	1.6			
5 538	6	60.6	.016	1	.021	.33	91.4	83.1	87.3	10.5	132	91	105	119	143	167	214	261	326	359	406	.6	1.4			
5 539	5	59.5	.044	1	.007	.02	91.4	82.5	87.0	9.9	132	87	103	114	134	157	212	269	358	398	436	.9	1.3			
5 540	5	62.2	.080	1	.004	.44	94.1	87.2	90.7	10.5	132	85	102	117	145	174	215	254	326	364	414	.9	2.1			
5 541	5	59.9	.018	2	.049	.01	92.2	83.3	87.8	10.2	135	88	104	119	146	175	222	263	321	350	403	.9	1.6			
5 542	1	61.0	.040	4	.000	1.98	92.3	85.2	88.8	9.9	132	90	106	120	138	158	204	272	359	397	436	.8	1.2			
6 543	3	59.8	.033	-	-	.59	93.9	86.1	90.0	10.0	135	94	110	122	147	172	219	262	346	390	430	.9	2.1			
6 544	4	67.6	.050	1	-	.29	94.1	90.3	92.2	10.6	133	86	113	120	153	187	214	240	310	358	402	1.4	2.2			
6 545	3	57.6	.032	-	-	.06	91.4	83.3	87.4	9.4	137	90	105	121	147	173	218	264	331	363	407	1.0	2.0			
6 546	3	59.2	.039	1	.000	.01	92.4	82.8	87.6	9.5	122	94	111	124	137	163	201	248	309	373	406	.9	1.6			
6 547	3	60.8	.055	-	-	.01	91.3	83.1	87.2	7.7	150	100	122	137	160	184	222	257	311	347	390	.7	1.3			
7 548	6	64.1	.045	-	-	.01	91.3	82.8	87.1	11.3	125	86	99	110	133	157	204	241	312	360	390	.9	2.1			
7 549	2	57.8	-	-	-	2.04	93.3	86.6	90.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
7 550	8	62.0	.050	-	-	.52	91.3	84.1	87.7	10.0	130	85	100	111	133	154	202	255	324	357	403	.8	1.7			
7 551	6	57.0	.024	-	-	.05	91.9	83.9	87.9	8.6	142	89	108	121	147	171	219	267	326	358	405	.9	1.6			
7 552	2	60.5	.021	-	-	.43	93.4	87.8	90.6	8.6	145	90	109	128	163	188	216	254	303	333	382	.7	2.3			
7 553	3	63.8	.041	-	-	.05	91.3	83.9	87.6	8.2	140	92	111	123	142	161	199	242	331	370	426	1.0	1.5			
7 554	3	60.5	.015	-	-	.45	93.6	85.7	89.7	11.7	127	80	93	107	137	173	231	277	325	346	385	.8	2.2			



TABLE 5. - MOTOR GASOLINE SURVEY, SUMMER 1973  
DATA FOR SOME ADDITIONAL GRADES--CONTINUED

THIRD-GRADE GASOLINE--CONTINUED

DISTRICT AND ITEM NUMBERS	SAM- PLES	GR., ASTM D287 API	SULF., ASTM D1266 WT %	GUM, ASTM D381 MG	PHOS., ASTM D3231 G/GAL	LEAD, ASTM D526 G/GAL	OCTANE NUMBER		RVP, ASTM D323 LB	20V/L ASTM D439 F	DISTILLATION, ASTM D86													RES % LOSS			
							RES, ASTM D2699	MOT, ASTM D2700			TEMPERATURE, F (CORRECTED TO 760 MM HG)																
											PERCENT EVAPORATED																
											IBP	5	10	20	30	50	70	90	95	EP	RES LOSS						
8 555	9	60.3	.024	-	-	.44	91.3	84.7	88.0	136	88	108	117	138	158	209	253	329	352	404	1.0	1.5					
8 556	1	57.0	-	-	-	.54	96.4	86.9	91.7	143	81	-	117	138	-	214	-	330	-	409	1.0	1.0					
8 557	7	60.0	.021	-	-	.40	93.7	86.3	90.0	139	88	110	121	149	181	223	253	312	332	390	1.1	1.6					
8 558	1	59.0	-	-	-	.05	91.1	83.0	87.1	140	82	-	120	140	-	201	-	337	-	444	1.0	2.0					
8 559	6	60.1	.031	-	-	.02	92.8	83.7	88.3	138	84	110	119	140	166	209	266	335	372	410	.9	1.6					
8 560	4	59.2	.051	-	-	2.56	94.6	86.6	90.6	136	92	108	121	141	161	208	272	348	383	424	1.0	1.5					
9 561	3	61.4	.043	-	-	1.92	92.7	85.1	88.9	137	86	106	121	149	174	212	246	319	352	402	.9	1.1					
9 562	3	68.9	.064	-	-	.01	91.4	82.8	87.1	132	90	107	117	137	158	198	237	302	332	378	1.2	1.3					
10 563	6	64.6	.040	-	-	.01	91.7	83.5	87.6	135	92	107	119	141	163	207	237	287	321	357	.8	1.8					
10 564	7	61.1	.047	-	-	2.02	92.6	85.2	88.9	137	92	110	121	141	162	210	261	339	383	428	1.3	1.5					
10 565	4	65.9	.020	1	-	.47	92.4	89.1	90.8	143	91	105	129	157	184	216	241	314	372	406	1.3	1.5					
11 566	6	60.9	.025	-	-	.35	93.4	85.3	89.4	138	90	105	119	144	169	212	252	304	338	373	.9	2.1					
11 567	4	58.5	.020	1	-	.34	94.2	87.1	90.7	144	95	113	126	151	177	230	267	308	348	394	1.0	1.0					
11 568	3	62.5	-	-	-	.44	91.5	83.6	87.6	142	94	109	122	141	161	207	254	326	373	414	.7	1.3					
11 569	6	60.5	.022	-	-	2.08	92.7	86.0	89.4	139	93	112	124	146	166	208	258	332	369	410	.9	1.9					
12 570	3	59.6	.021	2	-	.01	91.6	84.1	87.9	144	100	117	129	146	165	211	251	334	362	409	1.0	1.3					
12 571	4	60.2	.016	-	.011	2.19	93.8	86.6	90.2	137	90	106	121	142	160	201	246	328	368	406	1.0	1.5					
12 572	1	63.9	-	-	-	.43	95.1	87.6	91.4	146	103	-	133	149	-	210	-	306	-	397	-	-	-				
12 573	7	59.8	.015	-	-	.40	92.2	84.5	88.4	137	94	108	121	140	160	209	259	337	359	411	1.1	1.2					
12 574	2	61.6	.007	0	.005	.47	96.0	87.7	91.9	140	101	103	125	145	156	206	236	303	348	384	1.0	2.0					
12 575	5	56.6	.014	-	-	.39	95.4	87.5	91.5	142	89	109	124	151	179	229	269	328	361	403	.8	1.5					
12 576	4	61.6	-	-	-	.41	93.6	85.7	89.7	144	98	116	132	155	173	217	256	323	338	401	.8	1.2					
13 577	6	58.1	.060	2	.000	1.99	92.6	85.1	88.9	143	91	109	125	147	170	222	273	344	375	426	.9	1.7					
13 578	3	54.6	-	-	-	.36	94.4	84.7	89.6	145	93	114	127	149	173	221	282	343	378	430	.6	1.4					
13 579	9	55.9	.025	3	.000	.02	90.8	82.5	86.7	157	99	127	145	170	192	233	278	339	372	416	.9	1.8					

TABLE 5. - MOTOR GASOLINE SURVEY, SUMMER 1973  
DATA FOR SOME ADDITIONAL GRADES--CONTINUED

THIRD-GRADE GASOLINE--CONTINUED

DISTRICT AND ITEM NUMBERS	SAM- PLES	GR., ASTM D287 API	SULF., ASTM D1266 WT %	GUM, ASTM D381 MG	PHOS., ASTM D3231 G/GAL	LEAD, ASTM D526 G/GAL	OCTANE NUMBER			RVP, ASTM D323 LB	20V/L ASTM D439 F	DISTILLATION, ASTM D86												RES X	LOSS X
							RES, ASTM D2699	MOT, ASTM D2700	R+M ---			TEMPERATURE, F (CORRECTED TO 760 MM HG)													
												PERCENT EVAPORATED													
												IBP	5	10	20	30	50	70	90	95	EP				
13 580	6	62.4	-	-	-	.47	92.9	85.6	89.3	8.3	145	96	117	131	152	175	215	250	312	347	390	.7	1.3		
13 581	5	62.1	.026	-	-	.00	91.1	82.3	86.7	9.4	136	88	105	118	143	172	215	256	331	368	412	.8	1.7		
13 582	2	58.2	-	-	-	.01	91.5	83.5	87.5	7.8	146	94	116	128	148	168	217	261	319	342	402	.8	1.2		
13 583	12	61.2	.028	-	-	2.03	91.6	85.3	88.5	8.7	139	93	113	125	144	162	203	250	332	373	417	1.0	1.0		
14 584	3	69.3	-	-	-	.00	91.6	83.0	87.3	11.1	125	85	103	114	134	153	194	227	282	322	382	.7	1.8		
14 585	6	61.4	.050	1	.000	1.70	92.3	85.1	88.7	9.1	137	93	111	122	142	161	206	255	331	367	417	.9	1.7		
14 586	3	64.3	.012	2	.000	.04	91.5	85.1	88.3	7.4	151	102	127	137	159	182	214	242	309	346	396	.9	.9		
15 587	1	57.6	-	-	-	.01	92.0	84.3	88.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
15 588	4	66.4	.007	1	.000	3.31	91.0	86.9	89.0	10.2	128	85	109	120	136	153	187	231	292	316	361	.8	1.5		
15 589	3	67.7	.011	1	.000	.45	93.0	87.5	90.3	10.6	128	89	110	120	138	156	195	234	306	341	389	.9	1.6		
15 590	4	60.3	.012	1	.001	.02	91.9	82.6	87.3	7.9	144	97	119	130	149	167	207	246	320	355	412	.8	1.2		
16 591	4	55.4	.028	-	.000	.69	95.3	85.5	90.4	8.9	142	95	115	128	152	176	223	284	342	363	408	1.0	1.1		
16 592	5	60.3	.014	1	.001	.02	91.9	82.9	87.4	8.0	144	100	121	131	149	165	203	243	307	347	406	.9	.9		
16 593	4	61.0	.010	-	.000	.52	94.2	86.4	90.3	9.2	136	96	115	126	144	162	203	244	319	351	406	1.1	.9		
16 594	5	58.7	.035	1	.000	1.40	91.0	85.1	88.1	8.9	143	96	116	131	155	177	222	271	328	353	396	1.0	1.2		
16 595	3	58.0	-	-	-	.02	92.6	84.2	88.4	8.3	142	92	114	127	147	167	213	263	320	345	392	.7	1.3		
17 596	4	56.9	.010	0	.004	.02	92.3	84.4	88.4	7.9	148	100	117	132	153	170	225	269	322	349	399	1.2	.9		
17 597	5	56.8	.088	1	.000	.44	91.6	82.9	87.3	9.1	139	90	110	122	145	169	219	275	344	373	423	.9	1.1		
17 598	2	60.0	-	-	-	.43	96.2	86.8	91.5	8.8	141	100	-	130	150	-	208	-	310	-	401	1.0	1.0		
17 599	6	56.4	.069	0	-	.45	94.3	84.8	89.6	8.5	144	96	111	129	154	174	224	273	345	382	422	.9	1.2		
17 600	10	60.1	.043	1	.001	.17	92.4	83.6	88.0	8.5	139	97	114	125	141	163	202	255	317	334	390	1.0	1.0		
17 601	8	53.9	.007	1	.001	.09	92.3	83.6	88.0	8.4	146	95	113	130	157	185	228	264	321	337	387	.9	1.3		
17 602	1	63.2	-	-	-	.48	93.7	86.5	90.1	9.8	133	96	-	122	141	-	207	-	345	-	412	1.0	1.0		
AVERAGE		60.2	.030	1	.008	.49	92.9	85.0	89.0	9.2	137	91	109	122	144	168	213	260	326	361	405	1.0	1.5		
SAMPLES																							477		

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TABLE 5. - MOTOR GASOLINE SURVEY, SUMMER 1973  
DATA FOR SOME ADDITIONAL GRADES--CONTINUED

## INTERMEDIATE-GRADE GASOLINE

DISTRICT AND ITEM NUMBERS	SAM- PLES	GR., ASTM D287 API	SULF., ASTM D1266 WT %	GUM, ASTM D381 MG	PHOS., ASTM D3231 G/GAL	LEAD, ASTM D526 G/GAL	OCTANE NUMBER		RVP, ASTM D323 LB	20V/L ASTM D439 F	DISTILLATION, ASTM D86													RES %	LOSS %
							RES, ASTM D2699	MOT., ASTM D2700			TEMPERATURE, F (CORRECTED TO 760 MM HG)		PERCENT EVAPORATED												
											R+M ---	2	IBP	5	10	20	30	50	70	90	95	EP			
1 603	3	61.5	-	-	-	0.55	96.1	87.6	91.9	10.4	128	88	97	107	127	152	210	252	321	349	386	1.5	1.5		
1 604	3	60.6	-	-	-	.47	96.0	87.3	91.7	8.8	137	90	104	116	139	160	207	241	320	346	386	1.3	1.7		
2 605	1	59.5	0.005	2	0.001	.01	91.2	84.0	87.6	10.7	127	88	102	114	130	149	204	273	343	367	421	1.0	3.0		
2 606	14	58.3	.024	1	.001	.49	96.2	86.9	91.6	10.2	133	88	103	115	138	164	218	260	327	361	410	1.0	1.5		
2 607	10	61.2	.009	0	.000	.46	96.2	86.9	91.6	9.4	135	95	109	120	140	162	209	250	312	348	390	.7	1.5		
2 608	2	55.4	.009	0	.001	.07	94.4	85.2	89.8	10.3	133	90	109	122	143	165	216	273	325	349	405	.8	1.5		
2 609	1	59.0	.020	0	.001	.60	91.0	83.4	87.2	10.1	133	86	100	116	141	166	218	286	352	384	424	1.0	3.0		
2 610	2	55.0	.022	1	.001	.44	94.0	84.3	89.2	8.9	147	93	110	129	163	195	242	282	346	376	422	.8	2.3		
3 611	3	60.9	.037	-	-	2.38	96.3	88.5	92.4	9.5	135	92	109	122	141	161	206	257	339	377	412	.5	1.0		
3 612	9	60.7	.012	-	-	.46	96.2	87.0	91.6	9.4	135	90	106	118	138	159	208	249	310	341	383	.9	1.6		
3 613	9	57.3	.026	-	-	.51	96.2	87.0	91.6	10.2	132	87	97	113	138	165	225	264	329	361	405	.9	1.9		
4 614	11	59.4	.027	1	.013	.49	96.1	87.2	91.7	10.0	133	88	102	115	139	167	218	260	328	359	403	1.2	1.5		
4 615	11	61.8	.032	2	.026	.52	96.4	86.9	91.7	9.2	134	90	105	117	137	159	204	248	316	362	409	.9	1.5		
5 616	5	62.0	.026	1	.014	.53	96.6	87.3	92.0	9.5	135	90	108	121	142	164	205	246	316	358	407	.9	1.4		
6 617	1	59.8	.009	4	.001	.01	92.0	83.4	87.7	9.5	135	93	104	120	141	164	206	245	307	370	370	1.0	4.0		
6 618	4	62.6	.018	0	.000	.42	96.5	86.8	91.7	9.5	134	89	109	120	140	160	201	240	319	363	414	1.0	1.3		
6 619	1	65.4	.001	0	.000	.01	94.8	90.2	92.5	8.9	147	95	122	139	173	195	220	250	321	358	419	1.0	2.0		
6 620	1	60.6	.003	1	.000	.33	94.1	87.0	90.6	9.0	137	91	108	120	146	172	204	232	279	300	358	1.0	3.0		
7 621	1	62.3	.003	0	.002	.44	93.3	87.8	90.6	9.0	139	94	111	121	151	180	227	262	318	368	376	1.0	3.0		
7 622	6	62.1	.031	-	-	.43	96.6	87.0	91.8	0.3	134	90	105	118	139	159	201	239	305	358	404	.8	1.7		



TABLE 5. - MOTOR GASOLINE SURVEY, SUMMER 1973  
DATA FOR SOME ADDITIONAL GRADES--CONTINUED

INTERMEDIATE-GRADE GASOLINE--CONTINUED

DISTRICT AND ITEM NUMBERS	SAM- PLES	GR., ASTM D287 API	SULF., ASTM D1266 WT %	GUM, ASTM D381 MG	PHOS., ASTM D3231 G/GAL	LEAD, ASTM D526 G/GAL	OCTANE NUMBER		RVP, ASTM D323 LB	20V/L ASTM D439 F	TEMPERATURE, F (CORRECTED TO 760 MM HG)										DISTILLATION, ASTM D86										RES X	LOSS X	
							RES, ASTM D2699	MOT, ASTM D2700			R+M ---	PERCENT EVAPORATED																					
												IBP	5	10	20	30	50	70	90	95	EP												
7 623	3	60.1	.013	2	.011	.17	93.1	84.7	88.9	134	95	111	120	144	167	212	255	323	384	409												1.0	2.2
7 624	3	57.4	.037	-	-	.45	96.2	87.3	91.8	133	84	97	109	137	168	224	262	320	355	408												.6	1.9
8 625	9	57.0	.025	-	-	.51	96.1	87.3	91.7	137	88	102	115	139	171	229	268	328	361	405												1.1	1.6
8 626	8	61.3	.011	-	-	.48	96.3	87.3	91.8	134	91	106	117	138	159	205	246	304	335	385												.9	1.6
9 627	3	62.7	.038	-	-	.37	96.6	87.3	92.0	134	92	103	115	136	156	198	235	315	371	408												.9	2.1
10 628	3	63.0	-	-	-	.42	96.1	87.0	91.6	134	86	99	109	135	157	199	239	307	347	404												1.0	.5
11 629	3	59.0	-	-	-	.42	95.7	87.2	91.5	135	90	107	123	150	179	222	254	318	350	394												.6	1.9
11 630	3	61.2	-	-	-	.38	95.8	86.9	91.4	141	92	111	122	139	157	197	237	292	346	398												.8	1.2
12 631	7	58.3	.013	0	.005	.51	95.6	87.5	91.6	141	93	109	120	143	170	215	261	332	352	411												.8	2.2
12 632	3	61.0	-	-	-	.46	96.0	87.1	91.6	139	90	107	120	139	162	206	241	305	329	382												.8	1.7
13 633	3	64.8	-	-	-	2.84	94.3	89.2	91.8	144	100	120	132	148	164	204	245	325	370	416												.8	1.2
13 634	7	65.4	.020	4	.000	.37	94.6	86.2	90.4	144	103	122	132	148	164	199	229	283	325	379												.8	1.0
14 635	8	64.2	.015	0	.000	.41	95.3	87.0	91.2	133	89	107	118	140	161	201	238	314	358	403												.9	1.8
14 636	1	65.0	.050	1	.001	2.20	96.5	89.8	93.2	146	98	120	129	147	170	212	251	333	389	419												1.0	1.0
15 637	5	65.8	.008	3	.001	.44	95.4	87.1	91.3	134	90	110	122	142	161	198	229	292	332	386												.9	1.1
15 638	1	68.9	.003	1	.001	1.12	93.0	88.2	90.6	135	92	105	118	134	151	191	228	292	324	375												1.0	3.0
15 639	1	61.5	.005	3	.001	.91	93.9	87.1	90.5	143	88	112	126	152	179	228	264	319	338	401												.5	1.0
16 640	5	61.3	.009	1	.000	.40	96.1	86.8	91.5	140	98	121	132	149	166	202	239	313	346	398												.9	1.6
16 641	4	57.1	.014	1	.002	.40	96.5	87.6	92.1	142	92	113	131	159	184	226	270	334	359	401												.9	1.8
17 642	4	58.5	.028	-	-	2.47	95.5	87.8	91.7	139	91	109	124	147	172	219	263	341	380	419												.9	1.7
17 643	5	59.2	.029	1	.000	.50	96.2	86.6	91.4	139	94	112	125	145	164	205	245	305	331	390												.9	1.0
AVERAGE		60.9	.019	1	.003	.63	95.2	86.9	91.1	137	91	108	121	143	166	211	251	318	355	400												.9	1.8
SAMPLES	187																																



TABLE 6. - MOTOR GASOLINE SURVEY, SUMMER 1973  
ANALYSES OF LOW-LEAD CONTENT GASOLINE

DISTRICT	GRADE	SAM- PLES	GR., ASTM D287 API	SULF., ASTM D1266 WT %	GUM, ASTM D381 MG	PHOS., ASTM D3231 G/GAL	LEAD, ASTM D526 G/GAL	OCTANE NUMBER			RVP, ASTM D323 LB	20V/L		DISTILLATION, ASTM D86											RES %	LOSS %		
								RES, ASTM D2699	MOT, ASTM D2700	R+M ---		ASTM D439	F	TEMPERATURE, F (CORRECTED TO 760 MM HG)														
														PERCENT EVAPORATED														
														IBP	5	10	20	30	50	70	90	95	EP	HG				
1	THIRD GRADE	1	57.6	-	-	-	.08	95.7	85.3	90.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1	THIRD GRADE	2	59.2	-	-	-	.42	91.6	84.1	87.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1	THIRD GRADE	1	61.7	-	-	-	.45	96.2	87.5	91.9	9.7	132	132	90	-	118	136	-	204	-	302	-	386	1.0	2.0	-	-	-
1	THIRD GRADE	1	58.4	-	-	-	.32	95.6	88.2	91.9	9.7	136	136	94	-	120	140	-	223	-	308	-	384	1.0	2.0	-	-	-
1	THIRD GRADE	1	58.1	-	-	-	.31	94.6	86.4	90.5	9.8	136	136	86	-	126	145	-	219	-	310	-	385	1.0	2.0	-	-	-
1	INTERMEDIATE	1	61.2	-	-	-	.47	95.7	87.6	91.7	10.4	128	128	88	97	107	127	152	210	252	321	349	386	1.5	1.5	-	-	-
1	INTERMEDIATE	3	60.6	-	-	-	.47	96.0	87.3	91.7	8.8	137	137	90	104	116	139	160	207	241	320	346	386	1.3	1.7	-	-	-
2	THIRD GRADE	1	59.3	.002	0	.029	.10	91.0	83.7	87.4	9.5	135	135	88	108	119	139	161	218	286	355	394	440	1.5	.5	-	-	-
2	THIRD GRADE	8	58.2	.024	-	-	.37	91.9	84.4	88.2	9.8	134	134	88	103	115	140	167	220	284	351	391	419	.8	1.7	-	-	-
2	THIRD GRADE	1	60.2	.007	0	.018	.50	96.5	87.4	92.0	9.3	138	138	90	114	125	146	168	215	261	326	357	406	2.0	.0	-	-	-
2	THIRD GRADE	8	58.5	.018	1	.010	.28	94.3	87.0	90.7	10.0	136	136	89	106	116	144	176	231	263	318	355	403	.8	1.3	-	-	-
2	THIRD GRADE	8	59.0	.022	0	.008	.42	93.9	85.3	89.6	8.8	144	144	91	110	127	157	186	231	277	349	398	423	1.0	1.3	-	-	-
2	REGULAR	1	60.3	-	-	-	.50	95.3	87.1	91.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	INTERMEDIATE	9	57.3	.022	1	.001	.45	96.3	86.8	91.6	10.1	134	134	87	105	117	141	168	220	261	326	364	413	.9	.9	-	-	-
2	INTERMEDIATE	7	61.4	.011	0	.000	.43	96.1	86.9	91.5	9.5	133	133	96	109	119	137	157	203	242	304	341	385	.7	1.5	-	-	-
2	INTERMEDIATE	1	56.8	.010	0	.001	.08	94.6	85.0	89.8	10.1	132	132	87	110	121	138	158	207	265	320	345	398	1.0	.0	-	-	-
2	INTERMEDIATE	2	55.0	.022	1	.001	.44	94.0	84.3	89.2	8.9	147	147	93	110	129	163	195	242	282	346	376	422	.8	2.3	-	-	-
3	THIRD GRADE	7	60.9	.049	-	-	.39	91.7	83.5	87.6	9.0	135	135	87	107	115	136	162	206	256	322	362	401	1.0	1.5	-	-	-
3	THIRD GRADE	1	61.6	-	-	-	.20	96.4	87.6	92.0	9.6	131	131	94	-	115	130	-	200	-	313	-	379	1.0	.5	-	-	-
3	THIRD GRADE	3	58.9	.031	-	-	.36	96.9	86.9	90.6	9.1	136	136	88	102	114	136	160	216	264	311	340	390	1.3	1.7	-	-	-
3	THIRD GRADE	4	58.6	-	-	-	.09	92.3	83.6	88.0	7.9	142	142	92	112	125	144	161	201	244	325	377	428	1.1	1.4	-	-	-
3	THIRD GRADE	6	60.7	.018	-	-	.41	94.0	85.3	89.7	9.0	140	140	88	104	119	148	176	224	263	321	360	410	1.0	1.8	-	-	-
3	THIRD GRADE	6	57.2	.030	-	-	.45	96.1	86.8	91.5	10.2	132	132	87	97	113	138	165	225	264	329	361	405	.9	1.9	-	-	-
3	INTERMEDIATE	7	60.8	.012	-	-	.43	96.2	86.9	91.6	9.4	135	135	91	107	120	140	161	207	252	313	350	374	1.2	1.8	-	-	-



TABLE 6. - MOTOR GASOLINE SURVEY, SUMMER 1973  
ANALYSES OF LOW-LEAD CONTENT GASOLINE--CONTINUED

DISTRICT	GRADE	SAMP- LES	GR., ASTM D287 API	SULF., ASTM D1266 WT %	GUM, ASTM D381 MG	PHOS., ASTM D3231 G/GAL	LEAD, ASTM D526 G/GAL	OCTANE NUMBER			RVP, ASTM D323 LB	20V/L ASTM D439 F	DISTILLATION, ASTM D86												RES LOSS		
								RES, ASTM D2699	MOT, ASTM D2700	R+M --			TEMPERATURE, F (CORRECTED TO 760 MM HG)												EP	RES %	LOSS %
													PERCENT EVAPORATED														
													1BP	5	10	20	30	50	70	90	95						
4	THIRD GRADE	1	60.2	-	-	.12	91.6	85.3	88.5	-	134	90	105	119	142	168	215	267	335	366	406	1.0	1.4	-	-		
4	THIRD GRADE	10	60.0	.037	4	.013	91.1	84.2	87.7	10.0	135	89	108	120	145	171	218	258	310	348	387	1.1	1.4	1.0	1.4		
4	THIRD GRADE	8	59.5	.020	0	.015	93.9	86.9	90.4	9.9	135	89	108	120	145	171	218	258	310	348	387	1.1	1.4	1.0	1.4		
4	THIRD GRADE	1	60.3	.045	-	-	92.6	84.7	88.7	-	132	86	103	117	145	174	220	262	328	366	421	.8	1.7	-	-		
4	THIRD GRADE	3	63.1	-	-	-	93.9	86.4	90.2	10.5	132	86	103	117	145	174	220	262	328	366	421	.8	1.7	-	-		
4	THIRD GRADE	5	58.1	.031	2	.012	93.4	84.8	89.1	9.9	138	89	104	120	151	181	232	273	327	353	383	.8	1.9	-	-		
4	INTERMEDIATE	7	59.3	.026	2	.014	95.2	87.3	91.8	10.6	131	89	102	113	137	167	222	259	314	344	388	1.1	1.5	-	-		
4	INTERMEDIATE	4	62.4	.029	-	-	96.4	86.7	91.6	9.0	135	89	105	116	137	160	204	244	312	378	410	.8	1.7	-	-		
5	THIRD GRADE	6	59.5	.021	2	.006	91.0	83.2	87.1	10.2	133	88	105	119	144	167	214	261	323	355	397	.9	1.6	-	-		
5	THIRD GRADE	6	60.6	.016	1	.021	91.4	83.1	87.3	10.5	132	91	105	119	143	167	214	261	326	359	406	.6	1.4	-	-		
5	THIRD GRADE	3	62.0	.088	1	.004	94.2	87.2	90.7	10.7	131	84	100	115	143	172	215	257	332	370	419	.9	2.4	-	-		
5	INTERMEDIATE	3	62.3	.025	0	.008	96.7	87.4	92.1	9.8	132	91	106	120	141	161	199	240	307	347	406	1.0	2.0	-	-		
6	THIRD GRADE	4	67.6	.050	1	-	94.1	90.3	92.2	10.6	133	86	113	120	153	187	214	240	310	358	402	1.4	2.2	-	-		
6	THIRD GRADE	1	60.9	-	0	.48	93.5	86.8	90.2	-	134	89	109	120	140	160	201	240	319	363	414	1.0	1.3	-	-		
6	INTERMEDIATE	3	62.3	.018	0	.000	96.7	86.9	91.8	9.5	134	89	109	120	140	160	201	240	319	363	414	1.0	1.3	-	-		
6	INTERMEDIATE	1	60.6	.003	1	.000	94.1	87.0	90.6	9.0	137	91	108	120	146	172	204	232	279	300	358	1.0	3.0	-	-		
7	THIRD GRADE	4	61.1	.033	-	-	91.3	84.4	87.9	8.9	137	88	106	118	141	164	211	264	331	362	400	1.0	1.5	-	-		
7	THIRD GRADE	1	57.6	-	-	.08	91.7	84.6	88.2	-	145	90	109	128	163	188	216	254	303	333	382	.7	2.3	-	-		
7	THIRD GRADE	2	60.5	.021	-	.43	93.4	87.8	90.6	8.6	145	90	109	128	163	188	216	254	303	333	382	.7	2.3	-	-		
7	THIRD GRADE	1	64.7	.041	-	-	91.4	84.2	87.8	-	127	80	93	107	137	173	231	277	325	346	385	.8	2.2	-	-		
7	THIRD GRADE	2	60.4	.015	-	.42	93.8	85.7	89.8	11.7	127	80	93	107	137	173	231	277	325	346	385	.8	2.2	-	-		
7	INTERMEDIATE	2	57.9	.037	-	.43	96.2	87.3	91.8	10.0	133	84	97	109	137	168	224	262	320	358	408	.6	1.9	-	-		
7	INTERMEDIATE	1	62.3	.021	4	.002	96.0	87.4	91.8	9.6	134	96	112	122	141	160	202	236	310	382	418	1.0	2.0	-	-		
7	INTERMEDIATE	6	62.1	.031	-	.43	96.6	87.0	91.8	9.3	134	90	105	118	139	159	201	239	305	358	404	.8	1.7	-	-		
7	INTERMEDIATE	1	62.3	.003	0	.002	93.3	87.8	90.6	9.4	139	94	111	121	151	180	227	262	318	368	376	1.0	3.0	-	-		

TABLE 6. - MOTOR GASOLINE SURVEY, SUMMER 1973  
ANALYSES OF LOW-LEAD CONTENT GASOLINE--CONTINUED

DISTRICT	GRADE	SAM- PLES	GR., ASTM D287 API	SULF., ASTM D1266 WT %	GUM, ASTM D381 MG	PHOS., ASTM D3231 G/GAL	LEAD, ASTM D526 G/GAL	OCTANE NUMBER		RVP, ASTM D323 LB	20V/L ASTM D439 F	DISTILLATION, ASTM D86										RES LOSS			
								RES, ASTM D2699	MOT., ASTM D2700			R+M --- 2	TEMPERATURE, F CORRECTED TO 760 MM HG												
													PERCENT EVAPORATED										EP	RES X	LOSS X
													IBP	5	10	20	30	50	70	90	95				
8	THIRD GRADE	7	59.8	.026	-	-	.40	91.3	84.8	88.1	135	87	109	116	137	157	210	253	330	347	402	1.1	1.4		
8	THIRD GRADE	6	59.8	.021	-	-	.38	93.7	86.1	89.9	139	88	110	121	149	181	223	253	312	332	390	1.1	1.6		
8	REGULAR	2	56.1	.024	-	-	.35	94.0	85.9	90.0	-	-	-	-	-	-	-	-	-	-	-	-	-		
8	INTERMEDIATE	5	56.7	.025	-	-	.46	96.0	87.3	91.7	138	89	103	116	140	173	230	264	324	361	403	1.2	1.4		
8	INTERMEDIATE	5	61.7	.011	-	-	.45	96.2	87.5	91.9	134	92	106	117	137	157	205	249	309	337	386	.8	1.5		
9	INTERMEDIATE	3	62.7	.038	-	-	.37	96.6	87.3	92.0	134	92	103	115	136	156	198	235	315	371	408	.9	2.1		
10	THIRD GRADE	3	66.3	.020	1	-	.39	92.4	89.8	91.1	143	91	105	129	157	184	216	241	314	372	406	1.3	1.5		
10	INTERMEDIATE	2	63.6	-	-	-	.33	96.2	87.0	91.6	134	86	99	109	135	157	199	239	307	347	404	1.0	.5		
11	THIRD GRADE	3	62.5	-	-	-	.44	91.5	83.6	87.6	142	94	109	122	141	161	207	254	326	373	414	.7	1.3		
11	THIRD GRADE	4	58.5	.020	1	-	.34	94.2	87.1	90.7	144	95	113	126	151	177	230	267	308	348	394	1.0	1.0		
11	THIRD GRADE	6	60.9	.025	-	-	.35	93.4	85.3	89.4	138	90	105	119	144	169	212	252	304	338	373	.9	2.1		
11	INTERMEDIATE	3	59.0	-	-	-	.42	95.7	87.2	91.5	141	90	107	123	150	179	222	254	318	350	394	.6	1.9		
11	INTERMEDIATE	3	61.2	-	-	-	.38	95.8	86.9	91.4	135	92	111	122	139	157	197	237	292	346	398	.8	1.2		
12	THIRD GRADE	1	63.9	-	-	-	.43	95.1	87.6	91.4	146	103	-	133	149	-	210	-	306	-	397	-	-		
12	THIRD GRADE	6	59.5	.015	-	-	.37	92.0	84.5	88.3	138	91	108	120	140	160	209	259	325	359	409	1.1	1.2		
12	THIRD GRADE	1	63.2	-	-	-	.41	95.5	87.3	91.4	145	107	-	133	151	-	212	-	306	-	379	-	-		
12	THIRD GRADE	5	56.6	.014	-	-	.39	95.4	87.5	91.5	142	89	109	124	151	179	229	269	328	361	403	.8	1.5		
12	THIRD GRADE	4	61.6	-	-	-	.41	93.6	85.7	89.7	144	98	116	132	155	173	217	256	323	338	401	.8	1.2		
12	INTERMEDIATE	4	57.0	.016	-	-	.48	95.8	87.3	91.6	138	88	101	115	145	175	223	266	324	358	404	.6	2.4		
12	INTERMEDIATE	3	61.0	-	-	-	.46	96.0	87.1	91.6	139	90	107	120	139	162	206	241	305	329	382	.8	1.7		
13	THIRD GRADE	3	54.6	-	-	-	.36	94.4	84.7	89.6	145	93	114	127	149	173	221	282	343	378	430	.6	1.4		
13	THIRD GRADE	4	61.5	-	-	-	.41	92.9	85.4	89.2	140	90	113	127	147	171	217	257	319	347	392	.6	1.4		
13	REGULAR	1	58.0	.046	-	.000	.49	93.2	84.2	88.7	143	95	118	134	156	176	225	273	328	361	406	1.4	.6		
13	INTERMEDIATE	7	65.4	.020	4	.000	.37	94.6	86.2	90.4	144	103	122	132	148	164	199	229	283	325	379	.8	1.0		





TABLE 7. - MOTOR GASOLINE SURVEY, SUMMER 1973  
ANALYSES OF UNLEADED GASOLINE

DISTRICT	GRADE	SAMPLES	GR., ASTM D287 API	SULF., ASTM D1266 WT %	GUM, ASTM D381 MG	PHOS., ASTM D3231 G/GAL	LEAD, ASTM D526 G/GAL	OCTANE NUMBER		RVP, ASTM D323 LB	20V/L ASTM D439 F	DISTILLATION, ASTM D86											RES %	LOSS %	
								RES, ASTM D2699	MOT, ASTM D2700			R+M ---	TEMPERATURE, F (CORRECTED TO 760 MM HG)												
													PERCENT EVAPORATED												
													IBP	5	10	20	30	50	70	90	95	EP			
1	THIRD GRADE	2	58.3	-	-	-	0.04	95.8	84.6	90.2	10.3	130	88	100	112	134	157	215	264	330	367	390	1.5	1.0	
1	THIRD GRADE	2	58.6	-	-	-	.03	91.7	84.7	88.2	9.2	134	92	107	118	134	155	207	270	334	367	418	.8	1.2	
1	PREMIUM	3	50.7	-	-	-	.05	100.8	90.6	95.7	10.4	134	88	97	111	138	181	246	276	339	391	412	1.8	1.2	
2	THIRD GRADE	9	59.2	0.044	2	0.021	.03	94.3	83.3	88.8	9.5	134	92	108	119	139	159	209	266	340	372	412	1.1	1.1	
2	THIRD GRADE	7	59.6	.014	0	.000	.02	91.6	83.9	87.8	9.8	131	92	103	114	133	152	205	274	340	369	421	1.0	1.5	
2	THIRD GRADE	2	57.0	.010	1	-	.02	94.6	84.9	89.8	10.7	138	88	-	127	163	193	243	-	337	-	431	1.0	3.0	
2	INTERMEDIATE	1	59.5	.005	2	.001	.01	91.2	84.0	87.6	10.7	127	88	102	114	130	149	204	273	343	367	421	1.0	3.0	
2	INTERMEDIATE	1	53.9	.007	0	.000	.06	94.2	85.3	89.8	10.4	134	92	107	122	148	172	225	280	330	352	411	.5	3.0	
2	PREMIUM	13	52.5	.012	1	.006	.02	100.9	90.3	95.6	9.9	137	88	104	116	144	181	238	270	332	362	408	.9	1.9	
3	THIRD GRADE	9	57.8	.024	-	-	.02	94.9	84.0	89.5	9.4	135	91	108	116	137	161	213	273	339	371	404	.9	2.0	
3	THIRD GRADE	4	61.0	.023	-	-	.04	92.1	82.3	87.2	8.3	141	93	113	125	145	165	202	248	330	372	424	1.0	1.3	
3	THIRD GRADE	1	57.0	-	-	-	.00	91.5	82.7	87.1	9.8	136	96	-	123	150	-	214	-	330	-	411	1.0	2.0	
3	PREMIUM	9	52.7	.020	-	-	.01	101.0	90.7	95.9	9.7	137	88	102	115	143	177	234	264	326	350	398	.9	1.6	
4	THIRD GRADE	3	57.1	.023	2	.012	.02	94.0	83.6	88.8	9.6	134	86	104	116	136	157	214	275	344	375	409	.6	1.4	
4	THIRD GRADE	6	59.3	.031	4	.014	.04	91.5	83.7	87.6	9.8	133	90	105	117	137	158	210	272	343	378	419	1.1	1.2	
4	THIRD GRADE	8	59.1	.011	2	.023	.04	91.6	83.6	87.6	9.0	138	89	107	120	143	167	216	267	339	378	417	1.1	1.2	
4	THIRD GRADE	4	55.1	.013	0	.011	.03	94.5	84.9	89.7	9.3	136	91	109	121	140	162	215	273	326	349	406	1.0	1.8	
4	THIRD GRADE	1	61.0	.019	3	.013	.04	91.0	83.0	87.0	7.9	144	93	115	126	144	161	212	268	335	381	401	1.2	.8	
4	THIRD GRADE	12	59.7	.026	2	.053	.02	92.3	83.5	87.9	9.8	137	90	107	121	147	173	221	262	321	354	397	1.1	1.6	
4	PREMIUM	6	54.4	.007	0	.001	.04	101.0	90.7	95.9	10.5	133	84	99	112	141	180	234	263	325	353	390	.8	2.2	
5	THIRD GRADE	5	62.5	.048	2	.007	.01	91.6	82.9	87.3	10.9	127	83	97	109	131	156	207	245	312	348	390	.9	2.1	
5	THIRD GRADE	2	58.5	.053	-	-	.05	92.8	82.5	87.0	9.4	139	91	108	122	148	177	226	274	346	389	428	.9	2.1	
5	THIRD GRADE	5	59.5	.044	1	.007	.02	91.4	82.3	87.0	9.9	132	87	103	114	134	157	212	269	358	398	436	.9	1.3	
5	THIRD GRADE	5	59.9	.018	2	.049	.01	92.2	83.3	87.8	10.2	135	88	104	119	146	175	222	263	321	350	403	.9	1.6	
6	THIRD GRADE	3	60.8	.055	-	-	.01	91.3	83.1	87.2	7.7	150	100	122	137	160	184	222	257	311	347	390	.7	1.3	
6	THIRD GRADE	3	59.2	.039	1	.000	.01	92.4	82.8	87.6	9.5	122	94	111	124	137	163	201	248	309	373	406	.9	1.6	
6	THIRD GRADE	1	57.6	.032	-	-	.06	91.4	83.3	87.4	9.4	137	90	105	121	147	173	218	264	331	363	407	1.0	2.0	
6	INTERMEDIATE	2	59.8	.009	4	.001	.01	92.0	83.4	87.7	9.3	135	93	104	120	141	164	206	245	307	370	407	1.0	4.0	
6	INTERMEDIATE	1	65.4	.001	0	.000	.01	94.8	90.2	92.5	8.9	147	95	122	139	173	195	220	250	321	358	419	1.0	2.0	

TABLE 7. - MOTOR GASOLINE SURVEY, SUMMER 1973  
ANALYSES OF UNLEADED GASOLINE--CONTINUED

DISTRICT	GRADE	SAM- PLIES	GR., ASTM D287 API	SULF., ASTM D1266 WT %	GUM, ASTM D381 MG	PHOS., ASTM D3231 G/GAL	LEAD, ASTM D526 G/GAL	OCTANE NUMBER			RVP, ASTM D323 LB	20V/L ASTM D439 F	DISTILLATION, ASTM D86										RES %	LOSS %		
								RES, ASTM D2699	MOT., ASTM D2700	RMW ---			TEMPERATURE, F (CORRECTED TO 760 MM HG)													
													PERCENT EVAPORATED													
													IBP	5	10	20	30	50	70	90	95	EP				
7	THIRD GRADE	6	64.1	.045	-	-	.01	91.3	82.8	87.1	125	86	99	110	133	157	204	241	312	360	390	.9	2.1			
7	THIRD GRADE	5	56.8	.024	-	-	.04	91.9	83.7	87.8	142	89	108	121	147	171	219	267	326	358	405	.9	1.6			
7	THIRD GRADE	2	63.3	-	-	-	.03	91.3	83.8	87.6	140	92	111	123	142	161	199	242	331	370	426	1.0	1.5			
7	INTERMEDIATE	2	59.0	.010	2	.016	.05	91.7	83.4	87.6	134	94	111	120	145	170	218	265	330	385	404	1.0	2.3			
8	THIRD GRADE	6	60.1	.031	-	-	.02	92.8	83.7	88.3	138	84	110	119	140	166	209	266	335	372	410	.9	1.6			
8	THIRD GRADE	1	59.0	-	-	-	.05	91.1	83.0	87.1	140	82	-	120	140	-	201	-	337	-	484	1.0	2.0			
8	PREMIUM	9	53.1	.015	-	-	.02	101.0	90.8	95.9	136	86	99	114	141	177	235	279	335	358	397	.9	1.8			
9	THIRD GRADE	3	68.9	.064	-	-	.01	91.4	82.8	87.1	132	90	107	117	137	158	198	237	302	332	378	1.2	1.3			
10	THIRD GRADE	6	64.6	.040	-	-	.01	91.7	83.5	87.6	135	92	107	119	141	163	207	237	287	321	357	.8	1.8			
12	THIRD GRADE	3	59.6	.021	2	.011	.01	91.6	84.1	87.9	144	100	117	129	146	165	211	251	334	362	409	1.0	1.3			
13	THIRD GRADE	5	62.1	.026	-	-	.00	91.1	82.3	86.7	136	88	105	118	143	172	215	256	331	368	412	.8	1.7			
13	THIRD GRADE	2	58.2	-	-	-	.01	91.5	83.5	87.5	146	94	116	128	148	168	217	261	319	342	402	.8	1.2			
13	THIRD GRADE	9	55.9	.025	3	.000	.02	90.8	82.5	86.7	157	99	127	145	170	192	233	278	339	372	416	.9	1.8			
14	THIRD GRADE	3	69.3	-	-	-	.00	91.6	83.0	87.3	125	85	103	114	134	153	194	227	282	322	382	.7	1.8			
14	THIRD GRADE	2	65.0	.013	-	-	.02	91.4	85.2	88.3	148	93	125	136	162	187	215	239	301	342	395	.8	.7			
15	THIRD GRADE	1	57.6	-	-	-	.01	92.0	84.3	88.2	-	-	-	-	-	-	-	-	-	-	-	-	-			
15	THIRD GRADE	4	60.3	.012	1	.001	.02	91.9	82.6	87.3	144	97	119	130	149	167	207	246	320	355	412	.8	1.2			
16	THIRD GRADE	3	58.0	-	-	-	.02	92.6	84.2	88.4	142	92	114	127	147	167	213	263	320	345	392	.7	1.3			
16	THIRD GRADE	5	60.3	.014	1	.001	.02	91.9	82.9	87.4	144	100	121	131	149	165	203	243	307	347	406	.9	.9			
17	THIRD GRADE	3	57.7	.010	0	.004	.02	92.4	84.3	88.4	144	96	117	129	150	170	219	269	322	349	399	1.2	.9			
17	THIRD GRADE	4	58.6	.050	1	.000	.02	92.0	82.7	87.4	143	90	110	123	143	161	207	256	313	336	391	.8	1.3			
17	THIRD GRADE	6	53.8	.007	1	.001	.02	92.2	83.2	87.7	146	93	113	131	158	185	222	264	315	337	381	.9	1.3			

TABLE 8. - Cumulative percents of samples of all grades by research octane numbers by districts, motor-gasoline survey, summer 1973

Research octane number	District																	Cumulative total samples
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
87	0.8												0.2					1
88	.8												.4					3
89	.8												.8					5
90				0.2	0.3		0.4			0.5			2.7		0.7			20
91	3.1	1.6	0.4	3.5	4.6	3.4	3.9	3.5	0.9	4.1	1.0	1.4	12.1	3.1	3.6	4.1	0.9	171
92	5.4	4.2	3.9	9.2	8.8	5.4	9.7	4.2	18.9	21.4	16.0	5.0	29.2	17.1	21.2	9.3	12.7	556
93	10.8	11.3	9.6	21.0	34.0	12.8	20.1	13.4	46.2	42.9	39.6	19.3	41.9	28.0	40.1	21.5	24.6	1,163
94	31.5	37.7	39.5	46.8	53.3	39.2	44.4	37.1	48.1	50.5	50.9	43.6	50.6	39.9	53.3	37.2	50.4	2,094
95	44.6	51.4	51.3	56.5	62.4	55.4	54.1	47.0	48.1	51.0	53.2	51.4	53.6	48.6	55.5	49.4	55.7	2,486
96	54.6	56.3	55.3	60.1	63.7	57.4	56.8	52.4	50.0	54.1	54.6	55.5	58.3	51.7	56.9	58.7	59.6	2,671
97	55.4	57.5	56.4	61.3	65.0	58.8	57.9	53.7	53.8	56.1	54.9	56.9	65.0	53.1	56.9	60.5	60.1	2,756
98	55.4	58.3	56.4	63.6	66.0	61.5	58.3	55.3	54.7	62.8	59.4	56.9	69.5	68.2	62.8	64.0	62.3	2,896
99	67.7	71.1	66.4	77.6	84.6	80.4	75.3	71.6	90.6	91.8	85.0	77.1	94.1	81.8	89.1	77.9	88.6	3,767
100	95.4	95.7	95.0	95.9	98.0	98.0	98.5	96.8	100.0	100.0	100.0	99.5	100.0	100.0	100.0	100.0	100.0	4,623
101	99.2	99.6	98.0	99.5	99.7	100.0	100.0	100.0				100.0						4,701
102	100.0	100.0	100.0	100.0	100.0													4,716





TABLE 10. - Locations and numbers of samples, motor gasoline survey, summer 1973

State	Location	Samples	State	Location	Samples
<u>District 1 (Northeast)</u>			<u>District 11 (South Plains)</u>		
Maine	Portland	42	Kansas	Coffeyville	6
Massachusetts	<u>Boston area</u>	<u>88</u>		McPherson	5
	2 locations	130		Wichita	67
<u>District 2 (Mid-Atlantic Coast)</u>			Missouri	Springfield	18
Maryland	Baltimore	94	Oklahoma	Bartlesville	6
New Jersey and New York	New York City area	144		Oklahoma City	2
New York	Albany	12		Tulsa	95
Pennsylvania	Harrisburg	27	Texas	<u>Dallas-Fort Worth</u>	<u>94</u>
Pennsylvania and New Jersey	Philadelphia area	139		8 locations	293
Virginia	<u>Richmond</u>	<u>90</u>	<u>District 12 (Southern Texas)</u>		
	6 locations	506	Texas	Houston	161
<u>District 3 (Southeast)</u>				Odessa	14
Alabama	Birmingham	81		<u>San Antonio</u>	<u>43</u>
	Mobile	20		3 locations	218
Florida	Jacksonville	2	<u>District 13 (South Mountain States)</u>		
	Miami area	142	Arizona	Phoenix	83
	Tampa	15		Tucson	14
Georgia	Atlanta	126	California	Bakersfield	14
North Carolina	Wilmington	30	Colorado	Denver	72
South Carolina	Charleston	4	Nevada	Las Vegas	23
Tennessee	<u>Chattanooga</u>	<u>36</u>		Reno	24
	9 locations	456	New Mexico	Albuquerque	101
<u>District 4 (Appalachian)</u>			Texas	Amarillo	90
New York	Buffalo	97		El Paso	24
Ohio	Cincinnati	107	Utah	Lubbock	24
	Cleveland	115		<u>Salt Lake City</u>	<u>59</u>
	Columbus	14		11 locations	528
Pennsylvania	Bradford	2	<u>District 14 (North Mountain States)</u>		
	Pittsburgh	89	Idaho	Boise	106
West Virginia	<u>Charleston</u>	<u>10</u>	Montana	Billings	48
	7 locations	434		Great Falls	6
<u>District 5 (Michigan)</u>			Washington	Pasco	38
Michigan	Central Michigan	68		<u>Spokane</u>	<u>89</u>
	Detroit	201		5 locations	287
	Lansing	2	<u>District 15 (Pacific Northwest)</u>		
	<u>Northern Peninsula</u>	<u>35</u>	Oregon	Portland	14
	4 locations	306	Washington	<u>Seattle</u>	<u>123</u>
<u>District 6 (North Illinois)</u>				2 locations	137
Illinois and Indiana	Chicago area	146	<u>District 16 (Northern California)</u>		
Iowa	<u>Davenport</u>	<u>2</u>	California	<u>San Francisco Bay area</u>	<u>172</u>
	2 locations	148		1 location	172
<u>District 7 (Central Mississippi)</u>			<u>District 17 (Southern California and Hawaii)</u>		
Indiana	Indianapolis	98	California	Los Angeles area	193
Kentucky	Louisville	79		San Diego	15
Missouri and Illinois	<u>St. Louis area</u>	<u>82</u>	Hawaii	<u>Honolulu</u>	<u>20</u>
	3 locations	259		3 locations	228
<u>District 8 (Lower Mississippi)</u>			<hr/>		
Arkansas	El Dorado	5	Total	81 locations	4,717
	Little Rock	75	<hr/>		
Louisiana	Baton Rouge	34	District	Locations	Samples
	Lake Charles	2	1	2	130
Mississippi	New Orleans	83	2	6	506
Tennessee	Jackson	15	3	9	456
	Memphis	98	4	7	434
	<u>Nashville</u>	<u>1</u>	5	4	306
	8 locations	313	6	2	148
<u>District 9 (North Plains)</u>			7	3	259
Minnesota	Minneapolis-St. Paul	88	8	8	313
North Dakota	<u>Fargo</u>	<u>18</u>	9	2	106
	2 locations	106	10	5	196
<u>District 10 (Central Plains)</u>			11	8	293
Iowa	Des Moines	51	12	3	218
Kansas	Phillipsburg	6	13	11	528
Kansas and Missouri	Kansas City area	89	14	5	287
Nebraska	Omaha	40	15	2	137
	<u>Scottsbluff</u>	<u>10</u>	16	1	172
	5 locations	196	17	3	228
<hr/>			Total	81	4,717
<hr/>					100.0





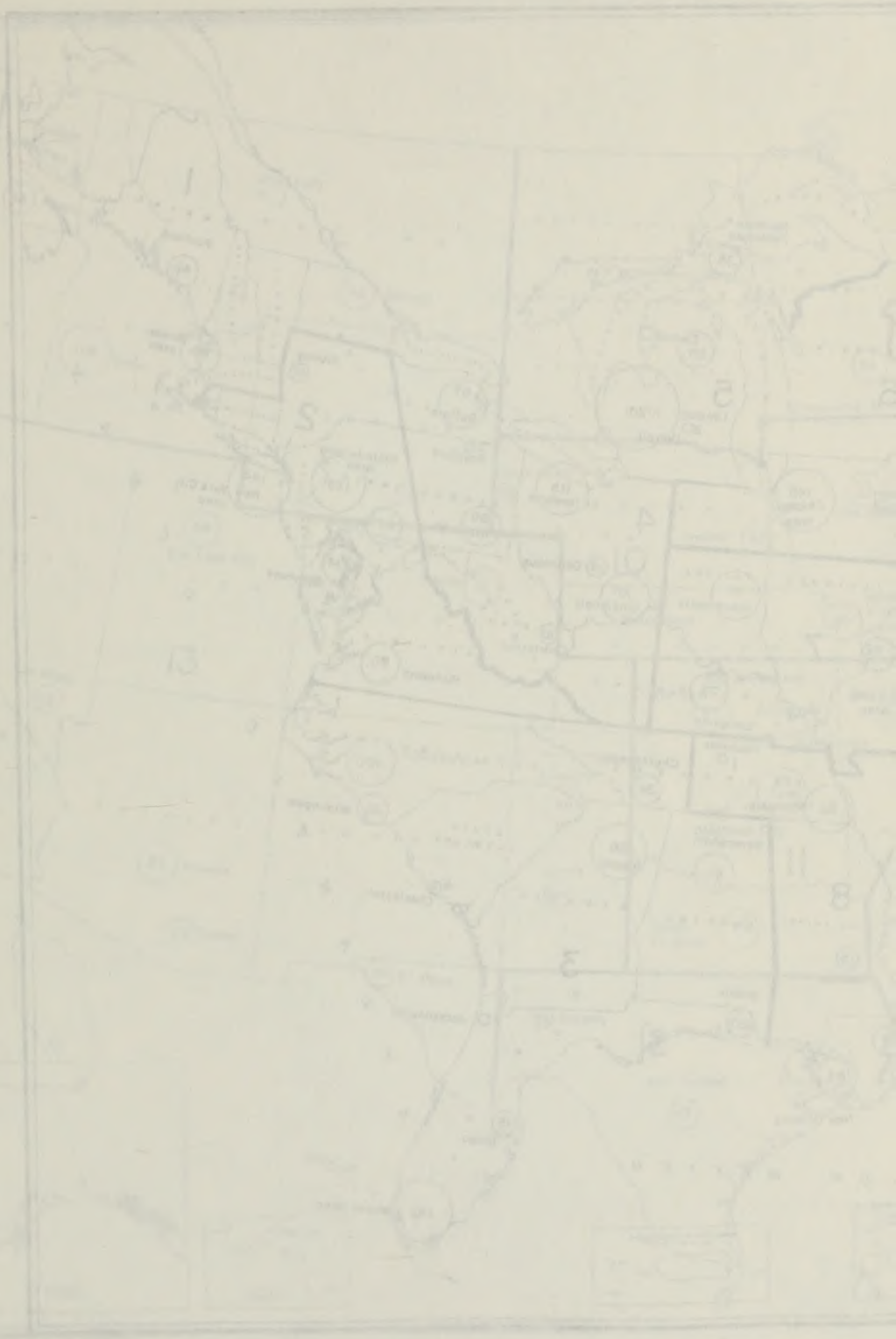
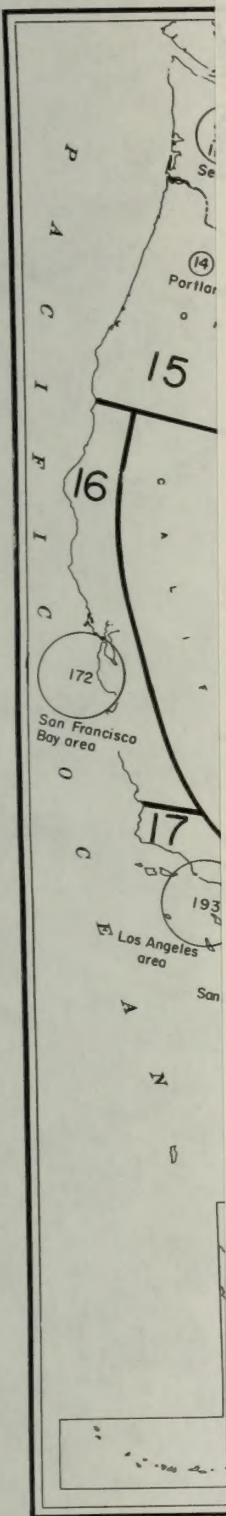


FIGURE 5 - Map showing the distribution of the 17 numbered regions in the United States. The map is oriented with North at the top. The regions are numbered 1 through 17, with 17 being the largest and most central region. The map also shows the Gulf of Mexico and the Atlantic Ocean.

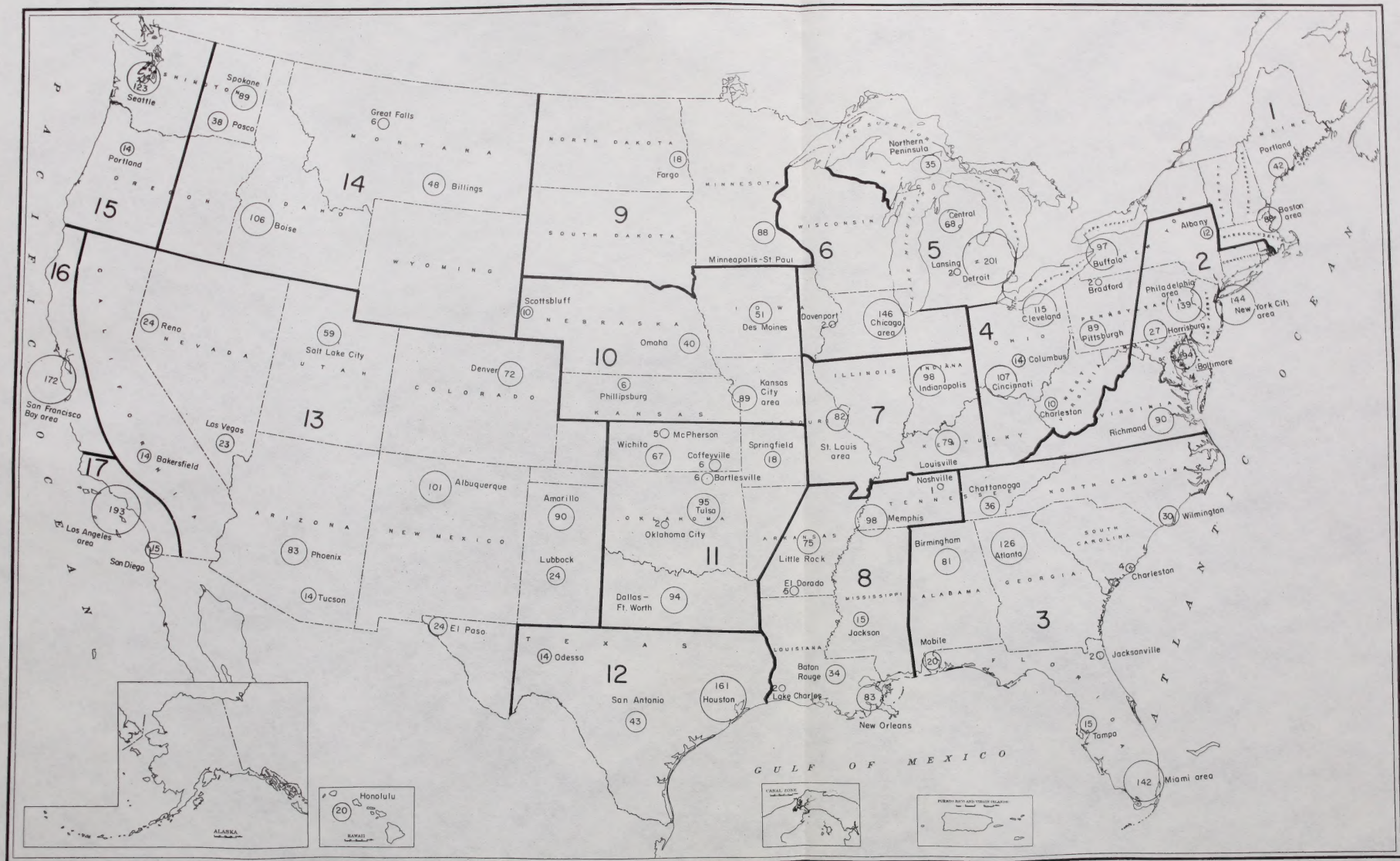


FIGURE 5.— Map Showing Locations and Numbers of Samples for the National Motor Gasoline Survey, Summer 1973







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